Access DB# 85723

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BELYANSKYE Examiner #: 79284 Date: 1/31/03
Art Unit: 1644 Phone Number 308-4232 Serial Number: 09/527463
Mail Box and Bldg/Room Location: 9D04 Results Format Preferred (circle): PAPER DISK E-MAIL
9912

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Polymyxin can be 1-4 or 1-3 when polymerized

12-26

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

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Searcher: _____
Searcher Phone #: 64498
Searcher Location: _____
Date Searcher Picked Up: 1/31/03
Date Completed: 1/31/03
Searcher Prep & Review Time: _____
Clerical Prep Time: 30
Online Time: 1:0

Type of Search

NA Sequence (#) _____
AA Sequence (#) ✓
Structure (#) _____
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN _____
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis ✓
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

PTO-1590 (8-01)

=> d his

FILE 'HOME' ENTERED AT 08:22:10 ON 31 JAN 2013
SET COST OFF

FILE 'REGISTRY' ENTERED AT 08:31:04 ON 31 JAN 2013
L1 0 S C6H10O7 AND C8H15NO6 AND PMS/CI
L2 0 S C6H10O7 AND C8H15NO6
E (C14H23NO12)/MF
L3 3 S E11
L4 1 S L3 NOT (6 OR 3)
E (C14H21NO11)/MF
L5 32 S C6H10O7/MF AND OC5/ES
L6 26 S L5 NOT (DIULOSE OR LABELED OR (D OR T)/ELS OR ION OR 11C# OR
L7 4 S L6 AND HEXULOPYRAN?
L8 22 S L6 NOT L7
L9 119 S C6H10O7/MF NOT L5
L10 101 S L9 NOT (DIULOSE OR LABELED OR (D OR T)/ELS OR ION OR 11C# OR
L11 9 S L10 AND NR>=1
L12 92 S L10 NOT L11
L13 60 S L12 NOT HEXULOSON?
L14 34 S L13 NOT ?URONIC?/CNS
L15 26 S L13 NOT L14
L16 25 S L15 NOT C
L17 47 S L8,L16
L18 120 S C8H15NO6/MF AND OC5/ES
L19 115 S L18 NOT (DIULOSE OR LABELED OR (D OR T)/ELS OR ION OR 11C# OR
L20 88 S L19 NOT 2 ACETYLAMINO
L21 27 S L19 NOT L20
L22 182 S C8H15NO6/MF NOT L18
L23 53 S L22 AND NR>=1
L24 129 S L22 NOT L23
L25 90 S L24 NOT (DIULOSE OR LABELED OR (D OR T)/ELS OR ION OR 11C# OR
L26 68 S L25 NOT 2 ACETYLAMINO
L27 22 S L25 NOT L26
L28 21 S L27 NOT 15N
L29 48 S L28 OR L21
SEL RN L17
L30 640 S E1-E47/CRN
SEL RN L29
L31 261 S E48-E95/CRN
L32 2 S L30 AND L31
E C14H23NO12/MF
L33 39 S E3-E5
L34 23 S L33 NOT 4 C
L35 16 S L33 NOT L34
L36 14 S L35 NOT MANNOPYRANURONIC
L37 16 S L32,L36
SEL RN
L38 2 S E1-E16/CRN
L39 1 S L38 AND PMS/CI
L40 1 S L4,L39
L41 2 S 9067-32-7 OR 9004-61-9
L42 437 S HYALURONIC ACID
L43 435 S L42 NOT L41
L44 392 S L43 NOT SQL/FA
L45 310 S L44 NOT (MXS OR IDS)/CI
L46 115 S L45 AND NR>=1
L47 195 S L45 NOT L46
L48 129 S L47 NOT SALT
L49 5 S L48 AND HYDROCHLOR?
L50 1 S L48 AND HYDROCHLORIDE AND 1/NC
L51 66 S L47 NOT L48

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L52           19 S L51 AND 1/NC
L53           17 S L52 NOT REACTION
L54           18 S L51 AND 2/NC
L55           33 S L51 NOT L52-L54
L56           20 S L41,L50,L53

     FILE 'HCAPLUS' ENTERED AT 09:02:48 ON 31 JAN 2013
L57            2 S L40
L58        11111 S L56
L59        12780 S HYALURONIC ACID OR HYALURONAN OR HEAL N OR HYALART OR HYALEIN
L60         5641 S HYALURONATE OR NA F 9004-61-9 OR HYALURAN
L61        15123 S L58-L60
L62           92 S L61 AND CELL DIFFERENTIATION-NT/CT
L63           11 S L61 AND AML?
L64            1 S L62 AND ACUTE MYELO?(L)(LEUKEM? OR LEUCEM? OR LEUKAEM? OR LEU
L65           10 S L61 AND CD14?
L66            9 S L61 AND CD15?
L67           17 S L61 AND (?CD14? OR ?CD15?)
L68           17 S L65-L67
L69          246 S L61 AND ?CD44?
                E CD44/CT
                E E4+ALL
L70         2678 S E19-E22,E18
L71          827 S L61 AND L70
L72          940 S L69,L71
L73          321 S L72 AND ANTIBOD?
L74           92 S L72 AND MAB?
L75          138 S L72 AND ANTI CD44
L76            2 S L72 AND ANTI ICAM?
                E ICAM/CT
                E E7+ALL
L77         4952 S E2
                E ICAM/CT
                E E4+ALL
L78           26 S L72 AND L77
L79           52 S L72 AND (ICAM OR INTERCELLULAR ADHESION MOL)()1
L80          940 S L72-L76,L78,L79
L81           23 S L80 AND L62
L82            1 S L80 AND L63,L54
                E LEUKEMIA/CT
L83        30490 S E3-E51
                E E3+ALL
L84        30515 S E9+NT
L85           38 S L61 AND L83,L84
L86            2 S L63,L64,L85 AND L62
L87            2 S L82,L86
L88            6 S L85 AND ?DIFFERENTIAT?
                E CELL DIFFERENTIATION/CT
                E E3+ALL
L89            6 S L87,L88
                SEL DN AN 1 2
L90            2 S L89 AND E1-E6
L91            4 S L62 AND ANIMAL CELL?/CT
                SEL DN AN 1 3
L92            2 S E7-E12
L93            4 S L87,L90,L92
L94            6 S L57,L93
L95           25 S L62 AND L65-L80
L96           23 S L95 NOT L94
                SEL DN AN 6 9-12 14 16-18 22
L97           12 S E13-E42
L98           10 S L94,L97 AND L57-L97
L99           15 S L98 AND (?DIFFERENTIAT? OR ?LEUCEM? OR ?LEUKEM? OR ?LEUCAEM?
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L100           16 S L98,L99
L101          636 S L61 AND GLUCURON?
L102          343 S L101 AND ?GLUCOSAMIN?
L103          276 S L102 NOT (GLUCURONIDASE OR GLUCOSAMINIDASE
L104           24 S L103 AND 1 4
                  SEL DN AN L103 6 [illegible]
L105            1 S L104 AND E43-E46
L106            2 S (2002:776209 OR 2002:694296)/AN
L107           23 S L104 NOT L105,L106
L108           41 S L100,L104-L107
                  E SMADJA J/AU
L109           41 S E3,E6,E7
                  E JOFFE/AU
                  E CHARRAD/AU
L110            5 S E4,E5
                  E RACHIDA/AU
                  E SIHEM/AU
                  E CHOMIENNE C/AU
L111           67 S E3-E5
                  E DELPECH B/AU
L112          105 S E3,E7
                  E JASMIN C/ AU
L113          136 S E3,E4
L114           58 S L61 AND L109-L113
L115            2 S L108 AND L114
L116           41 S L108,L115
L117           56 S L114 NOT L116
L118           12 S L117 AND L62-L100
                  SEL DN AN 5 6 8 9
L119            4 S L118 AND E1-E12
L120           45 S L108,L119
L121           52 S L117 NOT L120
                  SEL DN AN 1 11
L122            2 S L121 AND E13-E16
L123           47 S L120,L122 AND L57-L122

     FILE 'REGISTRY' ENTERED AT 09:57:05 ON 31 JAN 2003
L124            2 S L3 NOT L4
L125            1 S L124 NOT 6
                  E SCAN

     FILE 'HCAPLUS' ENTERED AT 09:58:01 ON 31 JAN 2003
L126            2 S L125
L127           48 S L123,L126 AND L57-L123
                  SEL HIT RN

     FILE 'REGISTRY' ENTERED AT 09:58:39 ON 31 JAN 2003
L128            4 S E1-E4

=> fil reg
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STRUCTURE FILE UPDATES:    29 JAN 2003  HIGHEST RN 483275-57-6
DICTIONARY FILE UPDATES:   29 JAN 2003  HIGHEST RN 483275-57-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002
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Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

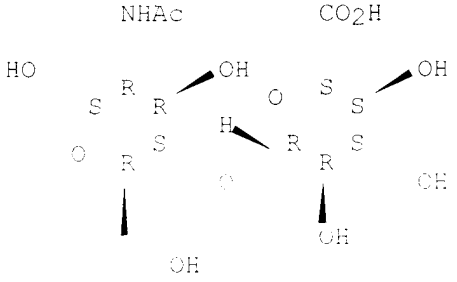
Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

L128 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 191165-02-3 REGISTRY
CN .alpha.-D-Glucopyranose, 2-(acetylamino)-2-deoxy-4-O-.beta.-D-glucopyranuronosyl-, homopolymer (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF (C14 H23 N O12)x
CI PMS
PCT Polyamide, Polyamide formed, Polyester, Polyester formed, Polyether
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

CM 1

CRN 76245-10-6
CMF C14 H23 N O12

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:381685

REFERENCE 2: 127:50908

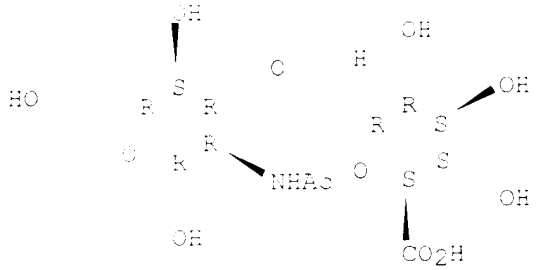
L128 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 163686-45-1 REGISTRY
CN .beta.-D-Glucopyranose, 2-(acetylamino)-2-deoxy-3-O-.beta.-D-glucopyranuronosyl-, homopolymer (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF (C14 H23 N O12)x
CI PMS
PCT Polyamide, Polyamide formed, Polyester, Polyester formed, Polyether
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

CM 1

CRN 87747-46-1

MF C14 H23 N O12

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:353248

REFERENCE 2: 133:182973

L128 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN **9067-32-7** REGISTRY
CN Hyaluronic acid, sodium salt (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Artz
CN Bio Hyaluro 12
CN FCH 200
CN FCH 248
CN HA-Q
CN HA-Q 1
CN Healon
CN Healon (polysaccharide)
CN Healon GV
CN Hyalart
CN Hyalein
CN Hyalgan
CN Hyladerm
CN Nidelon
CN NRD 101
CN Opegan
CN Orthovisc
CN SI 4402
CN SL 1010
CN SLM 10
CN Sodium hyaluronate
CN SPH
DR 34448-35-6
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyother, Polyother only
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MRCK*, PHAR, PHARMASEARCH, PROMT, RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL
*File contains numerically searchable property data.

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
1386 REFERENCES IN FILE CA (1962 TO DATE)
57 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

1388 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:78252

REFERENCE 2: 138:78141

REFERENCE 3: 138:78021

REFERENCE 4: 138:71249

REFERENCE 5: 138:66696

REFERENCE 6: 138:66078

REFERENCE 7: 138:61359

REFERENCE 8: 138:61191

REFERENCE 9: 138:61091

REFERENCE 10: 138:56466

L128 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN **9004-61-9** REGISTRY
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN ACP
CN ACP (polysaccharide)
CN ACP gel
CN Durolane
CN Hyaluronan
CN Hylartil
CN Luronit
CN Mucoitin
CN Sepracoat
CN Synvisc
DR 9039-38-7, 37243-73-5, 29382-75-0
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyester, Polyester formed
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGNL, DRUGU, DRUGUPDATES, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, NAPRALERT, NIOSHTIC, PHAR, PHARMASEARCH, PIRA, PROMT, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
9115 REFERENCES IN FILE CA (1962 TO DATE)
702 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
9124 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:78562

REFERENCE 2: 138:78546

REFERENCE 3: 138:78545

REFERENCE 4: 138:78514

REFERENCE 5: 138:74008

REFERENCE 6: 138:74494

REFERENCE 7: 138:74478

REFERENCE 8: 138:74270

REFERENCE 9: 138:75021

REFERENCE 10: 138:74858

=> fil hcaplus
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FILE COVERS 1907 - 31 Jan 2003 VOL 138 ISS 6
FILE LAST UPDATED: 30 Jan 2003 (20030130/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all hitstr tot 1127

L127 ANSWER 1 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **2003:39719** HCAPLUS
TI **Hyaluronan**-derived oligosaccharides enhance SDF-1-dependent chemotactic effect on peripheral blood hematopoietic CD34+ cells
AU Sbaa-Ketata, Elhem; Courel, Marie-Noelle; **Delpech, Bertrand**; Vannier, Jean-Pierre
CS Groupe de Recherche sur le Micro-Environnement et le Renouvellement Cellulaire Integre, Rouen, Fr.
SO Stem Cells (Miamisburg, OH, United States) (2002), 20(6), 585-587
CODEN: STCEEJ; ISSN: 1066-5099
PB AlphaMed Press
DT Journal
LA English
CC 13 (Mammalian Biochemistry)
AB Unavailable
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Courel, M; Anal Biochem 2002, V302, P285 HCAPLUS
(2) Landell, B; Leukemia 1997, V11, P811 HCAPLUS
(3) Poled, A; Science 1998, V281, P1345 HCAPLUS
(4) Pillarski, L; Blood 1999, V93, P2915 HCAPLUS
(5) Trochon, V; Int J Cancer 1996, V66, P664 HCAPLUS

L127 ANSWER 2 OF 48 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:943403 HCAPLUS
TI Homodimerization of **hyaluronan** and heparan sulfate derivatives by olefin metathesis reaction
AU Pele, Shyam M.; Iyer, Suri S.; Chaikof, Elliot L.
CS Laboratory of Biomolecular Materials Research, Emory University School of Medicine, Atlanta, GA, 30322, USA
SO Tetrahedron Letters (2002), Volume Date 2003, 44(1), 89-91
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
CC 33 (Carbohydrates)
AB **Hyaluronan** and heparan sulfate disaccharides of the type .beta.-d-**glucuronic** acid-(1 3)-N-acetyl-.beta.-d-**glucosamine** and .alpha.-l-iduronic acid-(1 4)-N-acetyl-.beta.-d-**glucosamine**, resp., with an n-pentenyl group at the reducing end have been synthesized. Homodimerization of these derivs. using Grubbs catalyst furnished dimerized disaccharides sepd. by a C8 spacer arm.

L127 ANSWER 3 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:868692 HCAPLUS
DN 137:381685
TI Cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of the heparin/heparosan synthases for the production of polymers
IN Deangelis, Paul L.
PA USA
SO PCT Int. Appl., 128 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K
CC 7-2 (Enzymes)
Section cross-reference(s): 3, 10, 16
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002089742	A2	20021114	WO 2002-US14581	20020508

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-289554P P 20010508
US 2001-296386P P 20010606
US 2001-303691P P 20010706
US 2001-313258P P 20010817
AB The presently claimed and disclosed invention relates, in general, to dual action heparin synthases and, more particularly, to dual action heparin synthases obtained from Pasteurella multocida. A dual action heparin/heparosan synthase encoded by a gene pmHS was identified in P. multocida. This enzyme is responsible for the polymn. of the **glucuronic** acid and N-**acetylglucosamine**. The nucleotide sequence of the P. multocida gene pmHS (clones A2 and B10) and the encoded amino acid sequence of the dual action heparin/heparosan synthase are disclosed. A gene with unknown function, called pglA was found in a genome sequencing project of type A P. multocida. It is disclosed in the

present invention that the PglA enzyme is also a heparin synthase. This unexpected cryptic gene is functional in vitro in recombinant systems. The presently claimed and disclosed invention also relates to heparosan, heparin and heparin-like mols. produced by recombinant techniques and methods of using such mols. and also the identification of putative heparin synthases or component single action enzymes. The presently claimed and disclosed invention also relates to methods, and mols. produced according to such methods, for using the presently claimed and disclosed heparosan and/or heparin synthase for polymer grafting and the prodn. of non-naturally occurring chimeric polymers incorporating stretches of one or more acidic GAG mols., such as heparin, chondroitin, **hyaluronan**, and/or heparosan.

ST Pasteurella gene pmHS pglA heparin heparosan synthase sequence; polymer prodn PmHS PglA heparin heparosan synthase Pasteurella

IT Quaternary ammonium compounds, uses
RL: NUU (Other use, unclassified); USES (Uses)
(alipn., heparin purifn. from culture media; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Sulfation
(biol., of heparin; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Electroporation
Transduction, genetic
Transformation, genetic
(cloning using; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT DNA sequences
Fermentation
Molecular cloning
Pasteurella multocida
Plasmid vectors
Protein motifs
Protein sequences
Viral vectors
(cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Transgene
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Cations
(divalent, heparosan synthase requirement for; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Nucleic acid hybridization
(for heparosan synthase gene identification; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Probes, Nucleic acid
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(for heparosan synthase gene identification; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT mRNA
RL: ANT (Analyte); ANST (Analytical study)
(for heparosan synthase; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Milk
Yeast
(heparin fermn. using culture media contg.; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Amino acids, biological studies
Salts, biological studies
Vitamins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(heparin fermn. using culture media contg.; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Culture media
Pasteurella
(heparin fermn.; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Dialysis
Extraction
Ion exchange chromatography
Precipitation (chemical)
Ultrafiltration
(heparin purifn. from culture media; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Polymer chains
(heparin with modified chain structure and length; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Drugs
(heparin-contg.; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Genetic element
Promoter (genetic element)
Reporter gene
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(heparosan synthase cloning using; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Chimeric gene
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); BIOL (Biological study); PREP (Preparation); USES (Uses)
(heparosan synthase gene-contg.; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Fusion proteins (chimeric proteins)
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); BIOL (Biological study); PREP (Preparation); USES (Uses)

(heparosan synthase-contg.; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Recombination, genetic
(homologous, heparosan synthase cloning using; cloning, characterization and sequences of PmHS and PglA heparin heparosan synthases from Pasteurella multocida and use of heparin heparosan synthases for prodn. of heparin and heparosan)

IT Eukaryota
Prokaryote
(host **cell**; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Polymer chains
(length, heparin with modified chain structure and length; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Molecular weight
(modified, of heparin; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Solubility
(of **glucuronic** acid-N-**acetylglucosamine** copolymer; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Drug delivery systems
(of heparin-contg. drugs; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Epimerization
Sulfation
(of heparin; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Mutagenesis
(of heparosan synthase gene; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT cDNA
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); BIOL (Biological study); PREP (Preparation); USES (Uses)
(of heparosan synthase; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Gene, microbial
RL: ANT (Analyte); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(pglA; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Gene, microbial
RL: ANT (Analyte); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(pmHS; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Genetic element
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(terminator, heparosan synthase cloning using; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT Bacteriophage
Cosmids
(vector; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 475607-76-2DP, subfragments are claimed 475607-77-3DP, subfragments are claimed 475607-79-5DP, subfragments are claimed
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); CAT (Catalyst use); PRP (Properties); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT **191165-02-3P**
RL: ANT (Analyte); BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PREP (Preparation)
(cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 321639-13-8, GenBank AE006077 407530-66-9, GenBank AF425591 407531-23-1, GenBank AF439804
RL: ANT (Analyte); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 6556-12-3, **Glucuronic** acid 7512-17-6, N-**Acetylglucosamine**
RL: BCP (Biochemical process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 152324-79-3P, Heparosan
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 9005-49-6P, Heparin, biological studies
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 437767-57-2P, Heparosan synthase
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); CAT (Catalyst use); PRP (Properties); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 37342-00-0, Epimerase

RL: CAT (Catalyst use); USES (Uses)
(for heparin epimerization; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT [illegible], Sulfotransferase
RL: CAT (Catalyst use); USES (Uses)
(for heparin sulfation; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 7439-95-4, Magnesium, biological studies 7439-96-5, Manganese, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(heparosan synthase requirement for; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 475607-74-0, subfragments are claimed 475607-75-1D, subfragments are claimed 475607-76-2, subfragments are claimed
RL: ANT (Analyte); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(nucleotide sequence; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 64-17-5, Alcohol, miscellaneous 67-64-1, Acetone, miscellaneous 67-66-3, Chloroform, miscellaneous
RL: MSC (Miscellaneous)
(polysaccharide insol. in; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 86-74-8, Carbazole
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polysaccharide pos. to carbazole reaction; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 108-95-2, Phenol, uses 7664-93-9, Sulfuric acid, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polysaccharide pos. to phenol-sulfuric acid reaction; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 67-68-5, DMSO, properties
RL: PRP (Properties)
(polysaccharide sol. in; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 9025-39-2, Heparinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(polysaccharide susceptibility to; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 475607-80-8 475607-81-9
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(protein motif; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

IT 475612-20-5 475612-21-6 475612-22-7 475612-23-8 475612-24-9

475612-25-0 475612-26-1 475612-27-2 475612-28-3 475612-29-4
475612-30-7 475612-31-8 475612-32-9 475612-33-0 475612-34-1
475612-35-2 475612-36-3 475612-37-4
RL: PRP (Properties,
unclaimed sequence; cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of the heparin/heparosan synthases for the prodn. of polymers

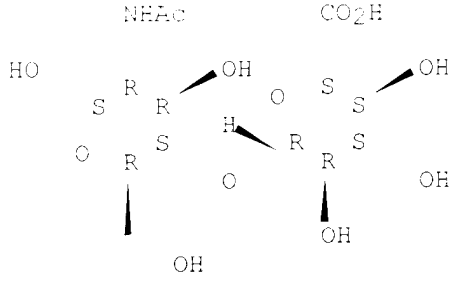
IT **191165-02-3P**
RL: ANT (Analyte); BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BST (Biological study, unclassified ; PRP (Properties ; ANST (Analytical study ; BIOL (Biological study ; PREP (Preparation,
(cloning, characterization and sequences of PmHS and PglA heparin/heparosan synthases from Pasteurella multocida and use of heparin/heparosan synthases for prodn. of heparin and heparosan)

RN 191165-02-3 HCAPLUS
CN .alpha.-D-Glucopyranose, 2-(acetylamino)-2-deoxy-4-O-.beta.-D-glucopyranuronosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 78245-16-6
CMF C14 H23 N O12

Absolute stereochemistry.



L127 ANSWER 4 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **2002:777604** HCAPLUS
DN **137:275356**
TI Methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation
IN Lanza, Robert P.; West, Michael D.
PA Advanced Cell Technology, Inc., USA
SO PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A01N063-00
ICS C12N005-00; C12N015-00; A01K067-00; A01K067-033
CC 9-11 (Biochemical Methods)
Section cross-reference(s): 3, 13
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002078449	A2	20021010	WO 2002-US10163	20020402
WO 2002078449	A3	20021121		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,

PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-290138P P 20010402

AB The present invention is concerned with developing **differentiated cells** and tissues from pluripotent and multipotent embryonic or adult stem **cells** or progenitor **cells**. The proper environmental cues encountered in the process of cellular **differentiation** and organogenesis are employed to facilitate the prodn. of specific **differentiated cell** types and tissues from embryonic and adult pluripotent **cells**. The methods reported herein are particularly useful for obtaining desired mammalian **cell** types the development of which requires the interaction of several **cell** types, indeed, possibly even the interaction of all three germ layers. The present invention presents methods whereby human inner **cell** mass (ICM), primordial or pluripotent stem **cells** are mixed with various formed embryonic structures or developing organ systems, such as human or animal teratomas, teratocarcinomas or other groups or mixts. of embryonic **cells** or structures, to generate chimeric structures in order to help induce the human **cells** to develop into the desired replacement **cell** type. In the case of xenogeneic combinations, these are then implanted or injected into animals that are either immuno-compromised, immuno-suppress or tolerized in order to generate **differentiated cells** and tissues. Also described are in vitro techniques where human or animal **cells** are juxtaposed with pluripotent stem **cells** to provide induction of desired **differentiation** pathways. The methods are useful for generating replacement **cells** and tissues for transplantation, and for assisting in treatments geared toward the regeneration of diseased or injured tissues.

ST mammalian **differentiated cell** tissue prodn transplantation; embryonic progenitor adult stem **cell differentiation** method

IT Collagens, biological studies
RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(Collastat, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Cytometry
(FACS (fluorescence-activated **cell** sorting), isolating **differentiated cells** or tissue using; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Mouse
(SCID or nude, as host animal, embryo, fetus; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Purification
(affinity, immunoaffinity, isolating **differentiated cells** or tissue using; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Transplant and Transplantation
(allotransplant, application in; methods for producing of mammalian **differentiated cell** types and tissues from embryonic

and adult stem or progenitor **cells** for use in transplantation)

IT Prosthetic materials and Prosthetics
alloys, cobalt-chromium, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Cattle
Rat
Sheep
Swine
(as host animal, embryo, fetus; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Prosthetic materials and Prosthetics
(bioactive glass, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Ceramics
Prosthetic materials and Prosthetics
(biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Carbohydrates, biological studies
Fibrins
Gelatins, biological studies
Glass, biological studies
Metals, biological studies
Monosaccharides
Polyanhydrides
Polyesters, biological studies
Polymers, biological studies
Polyoxyalkylenes, biological studies
Polysaccharides, biological studies
Proteins
Proteoglycans, biological studies
RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Embryo, animal
(blastocyst; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Phosphate glasses
RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(calcium phosphate, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT **Bone**
(demineralized **bone** matrix (DBM), as biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues

from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Human
donor **cells** or tissues from; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Embryo, animal
(ectoderm, placodes or neural plate or crest, of host animal, injection of **cell** mixt. into; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Parthenogenesis
(embryo produced by; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Genetic vectors
(encoding selectable marker, isolating **differentiated cells** or tissue using; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Gland
(endocrine, replacement **cells** or tissues; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Blood vessel
(endothelium, inducer **cells**, from developing or mature tissue type; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Embryo, animal
(entoderm, of host animal, injection of **cell** mixt. into; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Embryo, animal
(fetus, host, implanting of mixt. of stem **cells** and developing **cells** to; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Apparatus
(for tissue culture, biocompatible carrier introduced into **cell** mixt. in; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Nuclear transplantation
(from donor **cell** of mammal in need, to stem **cell**; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Prosthetic materials and Prosthetics
(glass ceramics, A-W, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Liver
(hepatocyte, replacement **cells** or tissues; methods for

producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Antigens
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(host animal immuno-tolerized by, prior to development of self-recognition; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Animal
Embryo, animal
(host, implanting of mixt. of stem **cells** and developing **cells** to; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Drug delivery systems
(implants, of developing **cell** mixt., into host fetus or animal; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Cytokines
Growth factors, animal
Hormones, animal, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in culture; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Mammalia
(in need, nuclear transfer donor **cell** from; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Fertilization
(in vitro, embryo produced by; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Drug delivery systems
(injections, of developing **cell** mixt., into host fetus or animal; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Embryo, animal
(inner **cell** mass, precursor **cells**; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Animal tissue culture
(mammalian, CICM (cultured inner **cell** mass); methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT **Animal cell**
(mammalian, chimeric mixt.; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Hydrogels
(matrixes, biocompatible carrier, mixt. of **cells** aggregated

with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Embryo, animal
(mesoderm, paraxial or intermediate or lateral plate, of host animal, injection of **cell** mixt. into; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Animal tissue
(methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT **Bone**
(minerals, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Embryo, animal
(morula; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Nerve
(neuron, precursor **cells**; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Genetic engineering
(of ICM or stem **cells**, prior to mixt. with developing **cells**; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Immune tolerance
(of host animal, by antigens, **cells** or tissues, prior to development of self-recognition; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Immunodeficiency
Immunosuppression
(of host animal, embryo, fetus; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Lung
Thymus gland
(of into host fetus or animal, injection or implant of developing **cell** mixt. into; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT **Cell differentiation**
(of mixt. of stem **cells** with developing **cells**; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Signal transduction, biological
(pathway, **differentiation** facilitating along; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Polyamides, biological studies

RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(poly(amino acids), biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Gamete and Germ **cell**
(primordial, as stem **cells**; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Glass ceramics
(prosthetic, A-W, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Blood vessel
Cartilage
Digestive tract
Ear
Eye
Fibroblast
Heart
Hematopoietic precursor **cell**
Immune system
Lung
Lymph
Muscle
Nose
Osteocyte
Pancreatic islet of Langerhans
Reproductive organ
Skin
Tongue
(replacement **cells** or tissues; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Genotypes
(replacement **cells** with the same genotype as mammal in need; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Reporter gene
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(selectable marker, isolating **differentiated cells** or tissue using; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Organ, animal
(sensory, replacement **cells** or tissues; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Embryo, animal
Mesenchyme
(stem **cell**; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in

transplantation)

IT **Cell**
stem, adult; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation

IT Hematopoietic precursor **cell**
(stem; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Organ, animal
(stroma, stem **cells**; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Carcinoma
(teratocarcinoma, as allogeneic or xenogeneic **cells**, stem **cells** mixed with; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Neoplasm
(teratoma, as allogeneic or xenogeneic **cells**, stem **cells** mixed with; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT **Cell** nucleus
(transfer, from donor **cell**, to stem **cell**; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Egg
(unfertilized, embryo produced by parthenogenic activation of; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Brain
Heart
Kidney
Liver
Muscle
Pancreas
(wall, of into host fetus or animal, injection or implant of developing **cell** mixt. into; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT Transplant and Transplantation
(xenotransplant, application in; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT 12743-70-3, Ti 6Al 4V
RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(Ti-6Al-4V, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated** **cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT 1306-06-5, Hydroxyapatite 1314-23-4, Zirconia, biological studies 1344-28-1, Alumina, biological studies 7440-25-7, Tantalum, biological studies 7440-32-6, Titanium, biological studies 7758-87-4, Tricalcium phosphate 9002-18-0, Agar 9004-32-4, CarboxyMethylcellulose

9004-61-9, Hyaluronic acid 9004-67-5, Methylcellulose 9005-25-8, Starch, biological studies 9005-27-1, Betastarch 9005-32-7, Alginic acid 9011-14-7, Polymethylmethacrylate 9037-22-3, Amylopectin 12597-68-1, Stainless steel, biological studies 13397-24-5, Gypsum, biological studies 25248-10-5 37220-08-5, Polyethylene glycol 51621-57-1, Polydioxanone 11104-61-0, Matrigel
RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT 7440-47-3, Chromium, biological studies 7440-48-4, Cobalt, biological studies
RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(cobalt-chromium alloy, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT 50-21-5, Lactic acid, biological studies 79-14-1, Glycolic acid, biological studies 110-16-7, Maleic acid, biological studies 502-44-3, Caprolactone
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(polymer of, biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

IT **9004-61-9, Hyaluronic acid**
RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(biocompatible carrier, mixt. of **cells** aggregated with; methods for producing of mammalian **differentiated cell** types and tissues from embryonic and adult stem or progenitor **cells** for use in transplantation)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 5 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **2002:776209** HCAPLUS
TI Synthesis of **hyaluronic acid**
AU Palmacci, Emma R.; Seeberger, Peter H.
CS Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA
SO Abstracts of Papers, 224th ACS National Meeting, Boston, MA, United States, August 18-22, 2002 (2002), ORGN-863 Publisher: American Chemical Society, Washington, D. C.
CODEN: 69CZPZ
DT Conference; Meeting Abstract
LA English
AB **Hyaluronan** is composed of a repeating disaccharide of beta-(**1->4**)-**glucuronic** acid beta-(1->3) linked to a N-acetyl **glucosamine** residue. A highly convergent, fully modular synthetic plan was devised to maximize flexibility and to minimize the no. of transformations required to fashion the **hyaluronan** oligosaccharides. Essential to the method is the efficient synthesis of HA monosaccharide building blocks. The monosaccharides incorporate a protecting group scheme such that all hydroxyls are differentiated, allowing for the future synthesis of modified (methylated, sulfated) structures. Furthermore, the **glucosamine** monosaccharide

building blocks can be easily converted into galactosamine, thereby allowing entry into chondroitin GAG structures. Once the monosaccharide units were synthesized, evaluation of the necessary glycosyl donors resulted in the discovery of competent glycosylating agents for the synthesis of HA oligosaccharides. The **glucosamine** building block makes use of the N-trichloroacetamide (TCA) amino protecting group as a participating functionality to ensure trans-selective glycosylations. Conversion of the TCA directly to an N-acetyl moiety is an advantage of this protecting group. A reliable route for the synthesis of **glucuronic** acid units was developed by a selective oxidn. of the primary hydroxyl. A C2-pivaloyl ester acts as a stereodirector for the necessary b-linkage to the **glucosamine** unit. Coupling of a 3-O-levulinyl **glucosamine** trichloroacetimidate glycosyl donor to a C4-hydroxyl **glucuronic** acid acceptor formed the central HA disaccharide. This disaccharide could be converted into an acceptor by removal of the 3-O- levulinyl or into a glycosyl donor by removal of the anomeric protecting group. This disaccharide acceptor and donor were used to afford the desired HA structures.

L127 ANSWER 6 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **2002:694296** HCAPLUS
DN 137:324722
TI Oral N-**acetylglucosamine** supplementation improves skin conditions of female volunteers: Clinical evaluation by a microscopic three-dimensional skin surface analyzer
AU Kikuchi, Kazuaki; Matahira, Yoshiharu
CS R&D 1st Division, Yaizu Suisankagaku Industry Co., Ltd, Japan
SO Journal of Applied Cosmetology (2002), 20(2), 143-152
CODEN: JACOEL; ISSN: 0392-8543
PB International Ediemme
DT Journal
LA English
CC 18-4 (Animal Nutrition)
AB Within the skin tissues, acidic mucopolysaccharides such as **hyaluronic acid** are present in the corium layer and play a large part in water retention and skin resilience. **Hyaluronic acid** is a polymer composed of dimers contg. N-**acetylglucosamine** and **glucuronic** acid. Although applications of the use of **hyaluronic acid** in cosmeceutical food have been reported, the beauty efficacy of orally-ingested **hyaluronic acid** cannot be predicted adequately because little is known about its digestion and absorption in humans. The purpose of this study was to investigate the effect of long-term oral N-**acetylglucosamine** supplementation on skin conditions in females who have a common tendency of xeroderma and rough skin. The subjects (av. age: 25.5 .+-. 10.7) were assigned randomly and double-blind to either a N-**acetylglucosamine** group (n=11) or a placebo group (n=11), and ingested a daily 1000-mg dose of N-**acetylglucosamine** or lactose, resp., for 60 days. Dermatol. examn. by doctors suggested that N-**acetylglucosamine** supplementation favorably affects skin conditions; i.e., improvements were obsd. in the desiccation of facial and whole body skin. After N-**acetylglucosamine** supplementation for 60 days, the moisture content of the region below the left eye was increased significantly; conversely, a significant decrease in the oil and fat content was obsd. In addn., clin. evaluation by a microscopic three-dimensional skin surface analyzer confirmed that oral N-**acetylglucosamine** supplementation is useful for mitigating the roughness of the skin and the epidermolysis of the corneum. These results indicate that oral N-**acetylglucosamine** supplementation may be of benefit in enhancing skin hydration. By contrast, no significant improvement was obsd. in the skin condition of the placebo group, as appraised by either dermatol. examn. or digital anal. The beautification effect produced by ingestion

of N-**acetylglucosamine** indicates that this compd. may be a potential ingredient for cosmeceutical foodstuffs.

ST **acetylglucosamine** supplement skin roughness

IT Acidity
Human
Skin
(oral N-**acetylglucosamine** supplementation improves skin conditions of females)

IT Fats and Glyceridic oils, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(skin; oral N-**acetylglucosamine** supplementation improves skin conditions of females)

IT Diet
(supplements; oral N-**acetylglucosamine** supplementation improves skin conditions of females)

IT 7512-17-6, N-**Acetylglucosamine**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(oral N-**acetylglucosamine** supplementation improves skin conditions of females)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L127 ANSWER 7 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:657870 HCAPLUS
TI Proteoglycans in inflammation
AU Delehedde, M.; Allain, F.; Payne, S. J.; Borgo, R.; Vanpouille, C.; Fernig, D. G.; Deudon, E.
CS School of Biological Sciences, University of Liverpool, Liverpool, L69 7ZB, UK
SO Current Medicinal Chemistry: Anti-Inflammatory & Anti-Allergy Agents (2002), 1(2), 89-102
CODEN: CMCAGM; ISSN: 1568-0142
PB Bentham Science Publishers Ltd.
DT Journal
LA English
CC 1 (Pharmacology)
AB Proteoglycans (PG) consist of a core protein and an assocd. glycosaminoglycan (GAG) chain and reside on the cell surface and in the extracellular matrix. The different GAG chains of PG, heparan sulfate/heparin (HS), dermatan/chondroitin sulfate, keratan sulfate and of **hyaluronic acid**, which is not assocd. with a core protein, are synthesized as polymers of repeating disaccharide units. However, the structures of GAG chains are highly diverse. For example, the post-polymn. modification of heparan chains (a polymer of **glucuronic** acid .beta.**1-4** N-acetyl **glucosamine**) by the sulfation of specific residues and the epimerisation of **glucuronate** to iduronate generates HS, which has a potential sequence complexity greater than that of the human proteome. Although only a fraction of this chem. complexity is used, it

provides the framework for GAG chains to interact with a vast repertoire of proteins, with a specificity that is as high as required. As a consequence of their multiple interactions, PG are intimately involved in the different stages of inflammation, from the recruitment of inflammatory cells to the release of mediators of inflammation by infiltrating leukocytes and the turnover of extracellular matrix. The overarching theme of PG in inflammation is the regulation of the inflammatory microenvironment, which must change continuously and dynamically during the progression of the inflammatory response as obsd. in various pathologies such as arthritis and asthma. These changes include the modulation of the activity of GAG-binding cytokines, growth factors, proteases and protease inhibitors. The interactions of these regulatory proteins with GAG provides much of the focus for GAG-based therapeutic targets.

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L127 ANSWER 8 OF 46 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:614422 HCAPLUS
TI Design and synthesis of well defined oligomeric assemblies of **hyaluronan**
AU Iyer, Suri S.; Rele, Shyam; Baskaran, Subramanium; Chaikof, Elliot
CS Department of Surgery, Emory University, Atlanta, GA, 30030, USA
SO Abstracts of Papers, 224th ACS National Meeting, Boston, MA, United States, August 18-22, 2002 (2002), CARB-093 Publisher: American Chemical Society, Washington, D. C.
CODEN: 69CZPZ
DT Conference; Meeting Abstract
LA English
AB An efficient strategy has been designed for the prepn. of disaccharides of **hyaluronan** (HA), a linear high mol. wt. polysaccharide present in the extracellular matrix with alternating .beta. 1,3 and **1, 4** linkages between D-**glucuronic** acid and N-acetyl D-**glucosamine** units. Specifically, the structurally related region b-D-GlcA-(1,3)-.alpha./.beta.-D-GlcNHAc and its dimerized oligomers sepd. by a diakyldiamine spacer have been synthesized. Construction of the target mols. was achieved through a combination of protection/deprotection protocols, trichloroacetimidate glycosylation methodol. followed by ozonolysis and reductive amination. The syntheses and potential therapeutic applications of these tailored synthetic mimics will be presented.

L127 ANSWER 9 OF 46 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:596516 HCAPLUS
DN 137:353248
TI Large-scale preparation, purification, and characterization of **hyaluronan** oligosaccharides from 4-mers to 52-mers
AU Tawada, Akira; Masa, Takahiro; Oonuki, Yoji; Watanabe, Atsushi; Matsuzaki, Yuji; Asari, Akira
CS Central Research Laboratories, Seikagaku Corporation, Higshiyamato, 207-0021, Japan
SO Glycobiology (2002), 12(7), 421-426
CODEN: GLYCE3; ISSN: 0959-6658
PB Oxford University Press
DT Journal
LA English
CC 33-8 (Carbohydrates)
Section cross-reference(s): 6, 7
AB **Hyaluronan** (HA) was depolymd. by partial digestion with testicular hyaluronidase and sepd. into size-uniform HA oligosaccharides from 4-mers to 52-mers by anion exchange chromatog. after removal of the hyaluronidase. The purity and size of each HA oligosaccharide was confirmed by using HPLC analyses, FACE, and ESI-MS. 1H and 13C NMR assignments and elemental analyses were obtained for each HA oligosaccharide. Endotoxins, proteins, and DNA were absent or in trace amts. in these HA oligosaccharides. Gram/mg-scale **hyaluronan** oligosaccharides were obtained from 200 g of HA starting material. These pure, size-uniform, and large range of HA oligosaccharides will be available for investigating important biol. functions of HA, such as for

the detn. of the size(s) of HA oligosaccharides that induce angiogenesis or mediate inflammatory responses, and to interact with HA-binding proteins and receptors both in in vitro and in vivo studies.

ST **hyaluronan** oligosaccharide prepn. anion exchange chromatog

IT Anion exchange chromatography
Depolymerization
(prepn., purifn., and characterization of **hyaluronan** oligosaccharides via testicular hyaluronidase digestion and anion exchange chromatog.)

IT Oligosaccharides, preparation
RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)
(prepn., purifn., and characterization of **hyaluronan** oligosaccharides via testicular hyaluronidase digestion and anion exchange chromatog.)

IT Polysaccharides, preparation
RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); RCT (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(prepn., purifn., and characterization of **hyaluronan** oligosaccharides via testicular hyaluronidase digestion and anion exchange chromatog.)

IT 67007-54-9P **163686-45-1P** 474639-79-7P 474639-82-2P
474639-84-4P 474639-86-6P 474639-89-9P
RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn., purifn., and characterization of **hyaluronan** oligosaccharides via testicular hyaluronidase digestion and anion exchange chromatog.)

IT **9004-61-9**, **Hyaluronan**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn., purifn., and characterization of **hyaluronan** oligosaccharides via testicular hyaluronidase digestion and anion exchange chromatog.)

IT 37326-33-3, Hyaluronidase
RL: CAT (Catalyst use); USES (Uses)
(testicular; prepn., purifn., and characterization of **hyaluronan** oligosaccharides via testicular hyaluronidase digestion and anion exchange chromatog.)

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD

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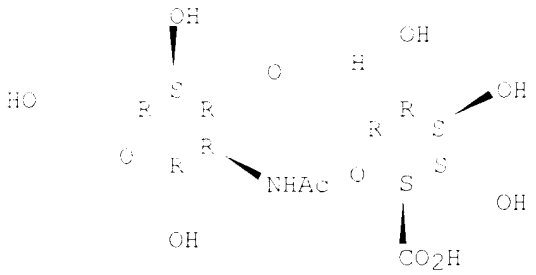
IT **163686-45-1P**
RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn., purifn., and characterization of **hyaluronan** oligosaccharides via testicular hyaluronidase digestion and anion exchange chromatog.)
RN 163686-45-1 HCAPLUS
CN .beta.-D-Glucopyranose, 2-(acetylamino)-2-deoxy-3-O-.beta.-D-glucopyranuronosyl-, homopolymer (8CI) (CA INDEX NAME)

CM 1

CRN 97747-46-1
CMF C14 H23 N O12

Absolute stereochemistry.



IT **9004-61-9, Hyaluronan**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn., purifn., and characterization of **hyaluronan** oligosaccharides via testicular hyaluronidase digestion and anion exchange chromatog.)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 10 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:355722 HCAPLUS
TI Increase in gap-junctional intercellular communications (GJIC) of normal human dermal fibroblasts (NHDF) on surfaces coated with high-molecular-weight **hyaluronic acid** (HMW HA)
AU Park, Jeong Ung; Tsuchiya, Toshie
CS Division of Medical Devices, National Institute of Health Sciences, Tokyo, 158-8501, Japan
SO Journal of Biomedical Materials Research (2002), 60(4), 541-547
CODEN: JBMRBG; ISSN: 0021-9304
PB John Wiley & Sons, Inc.
DT Journal; Miscellaneous
LA English
AB Normal human dermal fibroblast (NHDF) cells were used to detect differences in gap-junctional intercellular communication (GJIC) by **hyaluronic acid** (HA), a linear polymer built from repeating disaccharide units that consist of N-acetyl-D-**glucosamine** (GlcNa) and D-**glucuronic** acid (GlcA) linked by a .beta.**1-4** glycosidic bond. The NHDF cells were cultured with different mol. wts. (MW) of HA for 4 days. The rates of cell attachment in dishes coated with high-mol.-wt. (HMW; 310 kDa or 800 kDa) HA at 2 mg/dish were significantly reduced at an early time point

compared with low-mol.-wt. (LMW; 4.8 kDa or 48 kDa) HA with the same coating amts. HA-coated surfaces were obsd. by at. force microscopy (AFM) under air and showed that HA mols. ran parallel in the dish coated with LMW HA and had an aggregated island structure in the dish coated with HMW HA surfaces. The cell functions of GJIC were assayed by a scrape-loading dye transfer (SLDT) method using a dye soln. of Lucifer yellow. Promotion of the dye transfer was clearly obtained in the cell monolayer grown on the surface coated with HMW HA. These results suggest that HMW HA promotes the function of GJIC in NHDF cells. In contrast, when HMW HA was added to the monolayer of NHDF cells, the functions of GJIC clearly were lowered in comparison with the cells grown in the control dish or with those grown on the surface of HMW HA. Therefore it is concluded that the MW size of HA and its application method are important factors for generating biocompatible tissue-engineered products because of the manner in which the GJIC participates in cell differentiation and cell growth rate.

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L127 ANSWER 11 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:240715 HCAPLUS
DN 135:157505
TI Liposome-encapsulated doxorubicin targeted to **CD44**: a strategy to kill **CD44**-overexpressing tumor cells
AU Eliaz, Rom E.; Szoka, Francis C., Jr.
CS Department of Biopharmaceutical Sciences and Pharmaceutical Chemistry, School of Pharmacy, University of California-San Francisco, San Francisco, CA, 94143-0446, USA
SO Cancer Research (2001), 61(6), 2592-2601
CODEN: CNREA8; ISSN: 0008-5472
PB American Association for Cancer Research
DT Journal
LA English
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1
AB Certain tumors, including many that are found in the lung, overexpress the **CD44** cell-surface marker. **CD44** is a receptor that binds to **hyaluronan** (HA), a carbohydrate consisting of .beta.1,3-N-**acetylglucosaminyl** .beta.1,4-**glucuronide**. We hypothesized that the incorporation of

phosphatidylethanolamine lipid derivs.-contg. HA oligosaccharides (HA-PE) into liposomes could target drug-contg. liposomes to tumor cells that express **CD44**. HA-PE contg. palmitoyloleoylphosphatidylethanolamine or dipalmitoylphosphatidylethanolamine (HAn-PE) were incorporated into the lipid bilayer at various mole percentages of the total lipids; and the physicochem. properties (diam., surface charge, and stability) of the resulting liposome prepns. were characterized. HA-targeted liposomes (HALs) avidly bound to the **CD44**-high-expressing B16F10 murine melanoma cell line but not to the CV-1 African green monkey kidney cells, which express **CD44** at low levels. Binding of the HALs to the B16F10 cells was rapid, concn. dependent, and satd. at a lipid concn. of about 250 .mu.M. HAL binding to B16F10 was inhibited by HA with high Mr and by an **anti-CD44** monoclonal **antibody**. Binding to the B16 melanoma cells occurred at a lipid compn. that contained a .gtoreq.0.1 mol % of the HAn-PE lipid. The bound liposomes were internalized by a temp.-dependent process. The IC50s of doxorubicin (DOX) encapsulated in either HALs or nontargeted liposomes and of nonencapsulated DOX were compared in two protocols: continuous exposure of the cells to treatment for 24 h and transient exposure in which the treatment was applied for a 3-h period, and in which non-cell-assocd. drug was replaced with drug-free medium for the duration of the expt. The IC50s of free DOX, DOX-loaded nontargeted liposomes, and DOX-loaded HAL (HAL-DOX) for the transient exposure were 6.4 .mu.M, > 172 .mu.M, and 0.78 .mu.M, resp. For the continuous exposure protocol, the IC50s were 0.60 .mu.M, 25.0 .mu.M, and 0.14 .mu.M, resp. Thus, in both protocols, HAL-delivered DOX was significantly more potent than the nonencapsulated DOX in cells expressing high levels of **CD44**, which suggests that HALs may be a useful targeted drug carrier to treat **CD44**-expressing tumors.

ST liposome doxorubicin **CD44** tumor cell targeting

IT Phosphatidylethanolamines, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(conjugates, with **hyaluronic acid**; liposome-encapsulated doxorubicin targeted to **CD44** as a strategy to kill **CD44**-overexpressing tumor cells)

IT Antitumor agents
(liposome-encapsulated doxorubicin targeted to **CD44** as a strategy to kill **CD44**-overexpressing tumor cells)

IT **CD44 (antigen)**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(liposome-encapsulated doxorubicin targeted to **CD44** as a strategy to kill **CD44**-overexpressing tumor cells)

IT Drug delivery systems
(liposomes; liposome-encapsulated doxorubicin targeted to **CD44** as a strategy to kill **CD44**-overexpressing tumor cells)

IT 23214-92-8, Doxorubicin
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(liposome-encapsulated doxorubicin targeted to **CD44** as a strategy to kill **CD44**-overexpressing tumor cells)

IT 923-61-5DP, reaction products with **hyaluronic acid**
9004-61-9DP, Hyaluronic acid, reaction products with phosphatidylethanolamines 26662-94-2DP, reaction products with **hyaluronic acid**
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(liposome-encapsulated doxorubicin targeted to **CD44** as a strategy to kill **CD44**-overexpressing tumor cells)

IT 57-88-5, Cholesterol, biological studies 4004-05-1, Dope 26853-31-6, PDPC 185435-26-3 185463-23-4
RL: BPR (Biological process); BST (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(liposome-encapsulated doxorubicin targeted to **CD44** as a strategy to kill **CD44**-overexpressing tumor cells)

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IT **9004-61-9DP, Hyaluronic acid,** reaction products with phosphatidylethanolamines
RL: BPR (Biological process); BST (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(liposome-encapsulated doxorubicin targeted to **CD44** as a strategy to kill **CD44**-overexpressing tumor cells

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 12 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:202514 HCAPLUS
TI Mild cleavage of methyl carbamates with methyltrichlorosilane and the application toward the large scale syntheses of the 1,3- and **1,4**-linked **hyaluronan** disaccharides
AU Adamski-Werner, Sara L.; Yeung, Bryan K. S.; Miller-Deist, Lynne A.; Petillo, Peter A.
CS Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, USA
SO Abstr. Pap. - Am. Chem. Soc. (2001), 221st, ORGN-031
CODEN: ACSRAL; ISSN: 0065-7727
PB American Chemical Society
DT Journal; Meeting Abstract
LA English
AB The conversion of Me carbamate to the corresponding free amine is described for a series of 2-amino-2-deoxy-D-**glucosamine** derivs. Cleavage of the methoxycarbonyl moiety with MeSiCl3 and triethylamine in dry THF at 60 oC and subsequent aq. hydrolysis yields the free amine in 54 - 93 yields. The selective cleavage of Me carbamates with MeSiCl3 in the presence of a 2,2,2-trichloroethoxycarbonyl group or 2-azido glycosides affords selectively, orthogonal N-deprotected carbohydrates. Addnl., the Me carbamate derivs. of 2-amino-2-deoxyglycosides are shown to be useful glycosyl donors and acceptors and provide .beta.-glucosides via C-2 participation under the glycosylation conditions employed. The chlorosilane-induced carbamate cleavage reaction was used toward the large-scale syntheses of the 1,3- and **1,4**-linked **hyaluronan** disaccharides. Subsequent acetylation of the free amine yields the N-**acetylglucosamine** residue, and TEMPO oxidn. is utilized for the formation of the **glucuronic** acid moiety.

L127 ANSWER 13 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:93325 HCAPLUS
DN 134:291899
TI Characterization of Hyaluronidase Isolated from Agkistrodon contortrix contortrix (Southern Copperhead) Venom
AU Kudo, Kenzo; Tu, Anthony T.
CS Department of Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO, 80523, USA
SO Archives of Biochemistry and Biophysics (2001), 386(2), 154-162
CODEN: ABBIA4; ISSN: 0003-9861
PB Academic Press
DT Journal
LA English
CC 7-2 (Enzymes)
Section cross-reference(s): 12
AB Snake venoms are a rich source of enzymes including many hydrolytic enzymes. Some enzymes such as phospholipase A2, proteolytic enzymes, and phosphodiesterases are well characterized. However many enzymes, such as the glycosidase, hyaluronidase, have not been studied extensively. Here we describe the characterization of snake venom hyaluronidase. In order to det. which venom was the best source for isolation of the enzyme, the hyaluronidase activity of 19 venoms from Elapidae, Viperidae, and Crotalidae snakes was detd. Since Agkistrodon contortrix contortrix venom showed the highest activity, this venom was used for purifn. of hyaluronidase. Mol. wt. was detd. by matrix-assisted laser desorption ionization mass spectroscopy and was found to be 59,290 Da. The mol. wt.

value as detd. by SDS-PAGE was 61,000 Da. Substrate specificity studies indicated that the snake venom enzyme was specific only for **hyaluronan** and did not hydrolyze similar polysaccharides of chondroitin, chondroitin sulfate A (chondroitin 4-sulfate), chondroitin sulfate B (dermatan sulfate), chondroitin sulfate C (chondroitin 6-sulfate), chondroitin sulfate D, chondroitin sulfate E, or heparin. The enzyme is an endo-glycosidase without exo-glycosidase activity, as it did not hydrolyze p-nitrophenyl-.beta.-d-**glucuronide** or p-nitrophenyl-N-acetyl-.beta.-d-**glucosaminide**. The main hydrolysis products from **hyaluronan** were hexa- and tetrasaccharides with N-**acetylglucosamine** at the reducing terminal. The cleavage point is at the .beta.**1,4** -glycosidic linkage and not at the .beta.1,3-glycosidic linkage. Thus, snake venom hyaluronidase is an endo-.beta.-N-acetylhexosaminidase specific for **hyaluronan**. (c) 2001 Academic Press.

ST hyaluronidase snake venom **hyaluronan** Agkistrodon

IT Vipera russelli
(Thailand; detn. of hyaluronidase activities in venoms of several snake species)

IT Agkistrodon contortrix contortrix
(characterization of hyaluronidase isolated from Agkistrodon contortrix contortrix venom)

IT Agkistrodon bilineatus
Agkistrodon blomhoffii
Agkistrodon contortrix laticinctus
Agkistrodon piscivorus leucostoma
Agkistrodon piscivorus piscivorus
Bitis gabonica
Bothrops atrox
Bungarus fasciatus
Calloselasma rhodostoma
Crotalus adamanteus
Crotalus atrox
Crotalus basiliscus
Crotalus horridus horridus
Naja naja
Ophiophagus hannah
Trimeresurus flavoviridis
(detn. of hyaluronidase activities in venoms of several snake species)

IT Temperature
pH
(effect of pH, temp. and sodium chloride conc. on a snake venom hyaluronidase activity)

IT Venoms
(snake; detn. of hyaluronidase activities in venoms of several snake species)

IT **9004-61-9, Hyaluronan**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(characterization of hyaluronidase isolated from Agkistrodon contortrix contortrix venom)

IT 7647-14-5, Sodium chloride, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(effect of pH, temp. and sodium chloride conc. on a snake venom hyaluronidase activity)

IT 14327-91-2P, Endo-.beta.-N-acetylhexosaminidase
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process)
(southern copperhead venom hyaluronidase is an endo-.beta.-N-acetylhexosaminidase specific for **hyaluronan**)

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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IT **9004-61-9, Hyaluronan**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(characterization of hyaluronidase isolated from Agkistrodon contortrix contortrix venom)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 14 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **2000:790320** HCAPLUS
DN **133:344616**
TI Use of fragments of **hyaluronic acid** to limit neo-intimal proliferation following vascular trauma
IN Chajara, Abdesslam; Levesque, Herve; **Delpech, Bertrand**
PA Laboratoire L. Lafon, Fr.
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM A61K031-728
ICS A61P009-10
CC 1-8 (Pharmacology)

Section cross-reference(s): 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000066156	A1	20001109	WO 2000-FR1178	20000502

W: CA, JP, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

FR 2793140	A1	20001110	FR 1999-5611	19990503
PRAI FR 1999-5611	A	19990503		

AB The invention relates to the use of a fragment or mixt. of fragments of **hyaluronic acid** comprising 4-100 monosaccharide motifs or motifs of one of the pharmaceutically acceptable salts thereof in the prodn. of a medicament which is designed to limit neo-intimal proliferation following vascular trauma. **Hyaluronic acid** was hydrolyzed by treatment with hyaluronidase at 37.degree. for 6 h to obtain fragments of **hyaluronic acid**. **Hyaluronic acid** fragments were effective in limiting neo-intimal proliferation after angioplasty in rats.

ST **hyaluronic acid** neointimal proliferation vascular trauma

IT Artery
(angioplasty; use of fragments of **hyaluronic acid** to limit neo-intimal proliferation following vascular trauma)

IT Blood vessel, disease
(injury, trauma; use of fragments of **hyaluronic acid** to limit neo-intimal proliferation following vascular trauma)

IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(use of fragments of **hyaluronic acid** to limit neo-intimal proliferation following vascular trauma)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
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IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(use of fragments of **hyaluronic acid** to limit neo-intimal proliferation following vascular trauma)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 15 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **2000:573625** HCAPLUS
IN **133:182973**
TI Polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**
IN **Smadja-Joffe, Florence; Charrad, Rachida-sihem; Chomienne, Christine; Delpech, Bertrand; Jasmin, Claude**
PA Institut National de la Sante et de la Recherche Medicale (INSERM), Fr.
SO PCT Int. Appl., 57 pp.

CODEN: PIXXD2
DT Patent
LA French
IC ICM A61K
CC 63-6 (Pharmaceuticals
Section cross-reference(s): 1, 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO [illegible]47163	A2	[illegible]	WO [illegible]-FR349	20000211
	WO 2000047163	A3	20001026		
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	FR 2789587	A1	20000818	FR 1999-1644	19990211
	AU 2000026762	A5	20000829	AU 2000-26762	20000211
	EP 1150692	A2	20011107	EP 2000-905120	20000211
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
PRAI	FR 1999-1644	A	19990211		
	WO 2000-FR349	W	20000211		

AB The invention concerns the use of a polymer comprising an efficient amt. of disaccharide units each consisting of a mol. with N-acetyl-D-**glucosamine** structure bound by a .beta.(1.fwdarw.4)-O-glucoside linkage to a mol. with **glucuronic** acid structure for producing a medicine designed to induce or stimulate the **differentiation** of hematopoietic **cells**, and **leukemic cells** in particular.

ST **antileukemic** polydisaccharide hematopoietic **differentiation**

IT Lymphocyte
(**CD14**- and **CD15**-neg.; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT **Glycoproteins, specific or class**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**H-CAM** (**homing cell adhesion mol.**), monoclonal **antibodies** to; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT **Cell adhesion molecules**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ICAM-1** (**intercellular adhesion mol. 1**), monoclonal **antibodies** to; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT Antigens
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(SSEA-1 (stage-specific embryonic antigen 1), lymphocyte lacking; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT Transforming proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(degrdn. of; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT Polysaccharides, biological studies
RL: BAC (Biological activity or effector, except adverse ; BSU (Biological study, unclassified ; THU (Therapeutic use ; BIOL (Biological study ; USES (Uses)
(disaccharide-based; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT **Cell differentiation**
(inducers; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT Drug delivery systems
(injections, i.v.; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT Antitumor agents
(**leukemia**; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**

IT **CD14** (antigen)
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(lymphocyte lacking; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT Cytokines
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(mRNA encoding; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT **CD44 (antigen)**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(monoclonal **antibodies** to; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT **Antibodies**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(monoclonal, **anti-CD44**; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT **Leukemia**
(**myeloblastic, acute**; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT Phosphorylation, biological
(of proteins; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT **Cell differentiation**
Hematopoiesis
Leukemia
(polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT mRNA
RL: ANT (Analyte); ANST (Analytical study)
(polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT Drug delivery systems
(solns.; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT **163686-45-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); THU (Therapeutic use ; BIOL (Biological study ; USES (Uses)
(polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT 288333-84-6, 1: PN: WO0047163 SEQID: 3 unclaimed DNA 288333-85-7, 2: PN: WO0047163 SEQID: 4 unclaimed DNA 288333-86-8, 3: PN: WO0047163 SEQID: 5 unclaimed DNA 288333-87-9, 4: PN: WO0047163 SEQID: 6 unclaimed DNA 288333-88-0, 5: PN: WO0047163 SEQID: 1 unclaimed DNA 288333-89-1, 6: PN: WO0047163 SEQID: 2 unclaimed DNA 288333-90-4, 7: PN: WO0047163 PAGE: 10 unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

IT 288333-91-5
RL: PRP (Properties)
(unclaimed protein sequence; polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

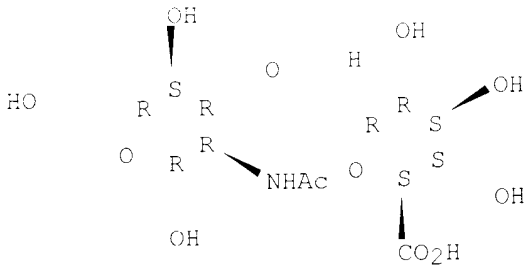
IT **163686-45-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

RN 163686-45-1 HCAPLUS
CN .beta.-D-Glucopyranose, 2-(acetylamino)-2-deoxy-3-O-.beta.-D-glucopyranuronosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 97747-46-1
CMF C14 H23 N O12

Absolute stereochemistry.



IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polydisaccharides for regulating hematopoietic **differentiation** for treatment of **leukemia**)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 16 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **2000:210326** HCAPLUS
DN **132:232382**
TI Non-hematopoietic **cells**, including cardiomyocytes and skeletal

muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them

IN Eisenberg, Carol A.
PA Mass Foundation for Research Development, USA
SO PCT Int. Appl., 74 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N005-06
ICS C12N001-38; A61K035-34
CC 2-10 (Mammalian Hormones)
Section cross-reference(s): 9, 14

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000017326	A1	20000330	WO 1999-US21916	19990921
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9960562	A1	20000410	AU 1999-60562	19990921
PRAI US 1998-101240P	P	19980921		
WO 1999-US21916	W	19990921		

AB The present invention provides a process of promoting **differentiation** of a stem **cell** into a cardiomyocyte or skeletal muscle **cell**, comprising the steps of obtaining a stem **cell**, which is preferably a hematopoietic stem **cell**, with cardiomyocyte or skeletal muscle **cell** potential from a donor and contacting the stem **cell** with a growth factor or combination of growth factors. The invention also provides a population of cardiomyocytes or skeletal muscle **cells** derived using the process and the nonembryonic stem **cells** having cardiomyocyte or skeletal muscle **cell** potential or embryonic or nonembryonic hematopoietic stem **cells**. Further provided is a compn., comprising the stem **cells** and a combination of growth factors in amts. and conditions to promote the **differentiation** of the stem **cells** into cardiomyocytes or skeletal muscle **cells**. Also provided are methods of using the **cells** of the present invention.

ST hematopoietic stem **cell differentiation** growth factor heart muscle transplantation

IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(Wnt; non-hematopoietic **cells**, including cardiomyocytes and skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them)

IT **Bone** morphogenetic proteins
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**bone** morphogenic factor 4; non-hematopoietic **cells**, including cardiomyocytes and skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them)

IT **Animal cell line**
Blood **cell**
Bone marrow
Cell differentiation
Embryo, animal
Heart
Mammal (Mammalia)
Muscle
Transplant and Transplantation
(non-hematopoietic **cells**, including cardiomyocytes and

skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them)

IT Growth factors, animal
Interleukin 15
Interleukin 2
Interleukins
Platelet-derived growth factors
Stem **cell** factor
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(non-hematopoietic **cells**, including cardiomyocytes and skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them)

IT Hematopoietic precursor **cell**
(stem; non-hematopoietic **cells**, including cardiomyocytes and skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them)

IT Transforming growth factors
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.-; non-hematopoietic **cells**, including cardiomyocytes and skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them)

IT Transforming growth factors
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(.beta.-; non-hematopoietic **cells**, including cardiomyocytes and skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them)

IT 50-02-2, Dexamethasone 60-24-2 60-92-4, CAMP 302-79-4, Retinoic acid 3458-28-4, D-Mannose 6893-02-3, 3,3',5-Triiodo-L-thyronine
9004-61-9, Hyaluronic acid 11128-99-7, Angiotensin II 62031-54-3, Fibroblast growth factor 67763-96-6, IGF-1 83869-56-1, Granulocyte-macrophage colony-stimulating factor 106096-92-8 116243-73-3, Endothelin 123584-45-2, Fibroblast growth factor-4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(non-hematopoietic **cells**, including cardiomyocytes and skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them)

IT 173049-28-0 261931-41-3, 2: PN: WO0017326 SEQID: 2 unclaimed DNA 261931-42-4, 3: PN: WO0017326 SEQID: 3 unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; non-hematopoietic **cells**, including cardiomyocytes and skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bruder, S; JOURNAL OF CELLULAR BIOCHEMISTRY 1994, V56, P283 HCAPLUS
(2) Eisenberg, C; DEVELOPMENT 1997, V124(2), P525 HCAPLUS
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(5) Ferrari, G; SCIENCE 1998, V279, P1528 HCAPLUS
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(9) Murry, C; JOURNAL OF CLINICAL INVESTIGATION 1996, V98(11), P2512 HCAPLUS
(10) Osiris Therapeutics Inc; WO 9903973 A 1999 HCAPLUS
(11) Tomita, S; CIRCULATION 1998, V98(17 SUPPL)
(12) Tomita, S; CIRCULATION 1999, V100(19 SUPPL) MEDLINE
(13) Wakitani, S; MUSCLE & NERVE 1995, V18(12), P1417 MEDLINE
IT **9004-61-9, Hyaluronic acid**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
non-hematopoietic **cells**, including cardiomyocytes and skeletal muscle **cells**, derived from hematopoietic stem **cells** and methods of making and using them
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L12 ANSWER 17 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **2000:161161** HCAPLUS
DN **132:212700**
TI Low-molecular fragments of **hyaluronic acid** for the preparation of vaccines
IN Simon, Jan; Martin, Stefan; Termeer, Christian
PA Universitaetsklinikum Freiburg, Germany
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM A61K039-00
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 15
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000012122	A2	20000309	WO 1999-EP6280	19990826
	WO 2000012122	A3	20000622		
	W: AU, CA, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19839113	A1	20000302	DE 1998-19839113	19980827
	DE 19853066	A1	20000525	DE 1998-19853066	19981117
	AU 9957416	A1	20000321	AU 1999-57416	19990826
PRAI	DE 1998-19839113	A	19980827		
	DE 1998-19853066	A	19981117		
	WO 1999-EP6280	W	19990826		

AB Low-mol.-wt. **hyaluronic acid** (HA) fragments, which may be suitably modified, may be used for the prepn. of vaccines for treatment of cancer. These HA fragments can be used to produce mature dendritic **cells**, or alternatively, together with antigens, peptides, or carrier systems, they can be used directly as adjuvants in vaccines. The HA fragments can also be coupled to an antigen, peptide, or carrier system and this coupled system can be used as a vaccine for treatment of cancer. Thus, HA was fragmented by sonication and incubation with hyaluronidase type I. The fragments were used to stimulate dendritic **cells** produced from **bone marrow CD14**-pos. monocytes by maturation with GM-CSF and IL-4. The stimulated dendritic **cells** induced proliferation of naive allogenic T-**cells** and showed increased expression of ICAM-1, HLA-DR, B7-1, AND B7-2.
ST **hyaluronate** fragment vaccine cancer; adjuvant vaccine cancer
hyaluronate fragment; dendritic **cell** stimulation
hyaluronate fragment
IT CD1 (antigen)
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(CD1a; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT CD antigens
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(CD83; low-mol. fragments of **hyaluronic acid** for

prepn. of vaccines)
IT Histocompatibility antigens
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(HLA-DR; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT **Cell adhesion molecules**
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(**ICAM-1** (**intercellular adhesion mol. 1**); low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT **Cell** proliferation
(T **cell**; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT Immunostimulants
(adjuvants; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT Peptides, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(conjugates, with **hyaluronic acid** fragments; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT Monocyte
Mononuclear **cell** (leukocyte)
(dendritic **cell differentiation** from; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT Antitumor agents
Dendritic **cell**
Vaccines
(low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT Antigens
Interleukin 4
Peptides, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT CD80 (antigen)
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT CD86 (antigen)
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT Macrophage colony-stimulating factor receptors
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT Drug delivery systems
(microspheres; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT **CD14** (antigen)
RL: PUR (Purification or recovery); PREP (Preparation)
(mononuclear leukocytes pos. for; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)

IT **Cell differentiation**
(of dendritic **cells**; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT **T cell** (lymphocyte)
(proliferation; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT **Antibodies**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(to **CD14**; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT Lymphocytic choriomeningitis virus
(vaccine for; low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT 83869-56-1, GM-CSF
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT **9004-61-9DP, Hyaluronic acid**, fragments
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT 528-04-1 151705-84-9D, reaction products with **hyaluronic acid** fragments
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
IT **9004-61-9DP, Hyaluronic acid**, fragments
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(low-mol. fragments of **hyaluronic acid** for prepn. of vaccines)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 18 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:67490 HCAPLUS
DN 132:113067
TI Heavy metal salts of succinic acid esters with **hyaluronic acid**, a process for their preparation and relative pharmaceutical compositions
IN Khan, Riaz; Konowicz, Paul A.; Flaibani, Antonella; Gombac, Valentina
PA Fidia Advanced Biopolymers S.r.l., Italy
SO U.S., 11 pp., Cont.-in-part of PCTEP 9,601.919.
CODEN: USXXAM
DT Patent
LA English
IC A61K031-73; C08B037-08
NCL 514054000
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 33, 62
FAN.CNT 2
PATENT NO. KIND DATE APPLICATION NO. DATE

PI	US 6017901	A	20000125	US 1997-966636	19971110
	WO 9638720	A1	19961114	WO 1996-EP1979	19960508
	W:	AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN			
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
PRAI	WO 1996-EP1979		19960508		
	IT 1995-RE90		19951013		

AB **Hyaluronic acid** or **hyaluronic acid** ester derivs., wherein one or more hydroxy functions of its **1,4-.beta.-D-glucuronic** acid and 1,3-.beta.-N-acetyl-D-**glucosamine** alternating repeating units are esterified with a carboxyl group of succinic acid to form the succinic hemiester of **hyaluronic acid** or **hyaluronic acid** esters. These derivs. are used to prep. the corresponding heavy metal salts of succinic hemiesters of **hyaluronic acid** or with **hyaluronic acid** partial or total esters. These salts are used as active ingredients in the prepn. of pharmaceutical compns. to be used as antibacterial and disinfectant agents for the treatment of wounds, burns and ophthalmia or as antiinflammatory agents in particular for the prepn. of pharmaceutical compns. for the treatment of osteoarticular disorders. A soln. of **Na hyaluronate** in distd. water and DMF was stirred in the presence of ion exchange resin, then the resin was removed by filtration. The soln. was neutralized with an excess of pyridine to give the pyridine salt of **hyaluronic acid**. The soln. was then treated with succinic anhydride and pyridine to give **hyaluronic acid** succinylate. The resulting soln. was further treated with a soln. of AgNO3 to give silver salt of succinyl **hyaluronate**.

ST succinyl **hyaluronate** metal salt prepn therapeutic

IT Shaving preparations
(aftershave; prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT Imaging agents
(contrast; prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT Medical goods
(gauzes; prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT Drug delivery systems
(gels; prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT Eye, disease
(inflammation; prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT Hair preparations
(lotions; prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT Drug delivery systems
(ointments, creams; prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT Drug delivery systems
(ointments; prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT Antiarthritics
Antibacterial agents
Antitumor agents
Disinfectants
Shaving preparations

(prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT Burn
Wound
(treatment of; prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT 108-30-5, reactions **9067-32-7, Sodium hyaluronate**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT 184876-82-2P 255876-38-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

IT 185322-57-0P 185322-58-1P 185322-59-2P 185322-89-8P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
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(3) Anon; EP 0314835 1989 HCAPLUS
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(8) Nogusa; US 5688931 1997 HCAPLUS

IT **9067-32-7, Sodium hyaluronate**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of succinyl **hyaluronate** heavy metal salts for use as therapeutic and diagnostic agents)

RN 9067-32-7 HCAPLUS
CN Hyaluronic acid, sodium salt (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 19 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:542431 HCAPLUS
TI Synthesis of two **hyaluronan** trisaccharides.
AU Yeung, Bryan K. S.; Petillo, Peter A.
CS Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, USA
SO Book of Abstracts, 218th ACS National Meeting, New Orleans, Aug. 22-26 (1999), ORGN-052 Publisher: American Chemical Society, Washington, D. C. CODEN: 67ZJA5
DT Conference; Meeting Abstract
LA English
AB **Hyaluronan** (HA) is a member of the glycosaminoglycan family of unbranched, neg. charged carbohydrate polymers. This carbohydrate is a repeating polymer of N-acetyl-D-**glucosamine** (GlcNAc or N) linked b(**1,4**) to D-**Glucuronic** acid (GlcUA or U) which in turn is linked b(1,3) to the next GlcNAc residue. Our interest in HA is to ascertain the conformational mobilities of carbohydrate polymers by high-resoln. NMR soln. studies. Towards this goal, we present the synthesis of two representative trimers of **hyaluronan**, UNU (1) and NUN (2). These trisaccharides represent the smallest fragments that incorporate all the structural features of polymeric HA.

L127 ANSWER 20 OF 48 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:366625 HCAPLUS
DN 131:156340
TI Ligation of the **CD44** adhesion molecule reverses blockage of **differentiation** in human **acute myeloid leukemia**
AU **Charrad, Rachida-Sihem**; Li, Yue; **Delpech, Bertrand**; Balitrand, Nicole; Clay, Denis; **Jasmin, Claude**; **Chomienne, Christine**; **Smadja-Joffe, Florence**
CS Laboratoire de differenciation hematopoietique normale et leucemique, Hopital Paul-Brousse, Villejuif, 94807, Fr.
SO Nature Medicine (New York, 1999, 5(9), 1058-1064
CODEN: NAMEFI; ISSN: 1078-8956
PB Nature America
DT Journal
LA English
CC 14-1 (Mammalian Pathological Biochemistry)
AB Blockage in myeloid **differentiation** characterizes **acute myeloid leukemia** (**AML**); the stage of the blockage defines distinct **AML** subtypes (**AML1**/2 to **AML5**). **Differentiation** therapy in **AML** has recently raised interest because the survival of **AML3** patients has been greatly improved using the **differentiating** agent retinoic acid. However, this mol. is ineffective in other **AML** subtypes. The **CD44** surface antigen, on **leukemic** blasts from most **AML** patients, is involved in myeloid **differentiation**. Here, the authors report that ligation of **CD44** with specific **anti-CD44** monoclonal **antibodies** or with **hyaluronan**, its natural ligand, can reverse myeloid **differentiation** blockage in **AML1**/2 to **AML5** subtypes. The **differentiation** of **AML** blasts was evidenced by the ability to produce oxidative bursts, the expression of lineage antigens and cytol. modifications, all specific to normal **differentiated** myeloid **cells**. These results indicate new possibilities for the development of **CD44**-targeted **differentiation** therapy in the **AML1**/2 to **AML5** subtypes.
ST **CD44** adhesion mol ligation terminal **differentiation** myeloid **leukemia**
IT **Leukemia**
(**acute myelogenous**; terminal **differentiation** induction in human **acute myeloid leukemia cells** mediated by **CD44** adhesion mol. ligation)
IT **Leukemia**
(**acute myelomonocytic**; terminal **differentiation** induction in human **acute myeloid leukemia cells** mediated by **CD44** adhesion mol. ligation)
IT **Leukemia**
(**acute promyelocytic**; terminal **differentiation** induction in human **acute myeloid leukemia cells** mediated by **CD44** adhesion mol. ligation)
IT **Leukemia**
(**acute**, **acute** monoblastic **leukemia**; terminal **differentiation** induction in human **acute myeloid leukemia cells** mediated by **CD44** adhesion mol. ligation)
IT **CD44 (antigen)**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(terminal **differentiation** induction in human **acute myeloid leukemia cells** mediated by

CD44 adhesion mol. ligation
IT **Cell differentiation**
terminal; terminal **differentiation** induction in human
acute myeloid leukemia cells
mediated by **CD44** adhesion mol. ligation
RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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P348
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L127 ANSWER 21 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:350607 HCAPLUS
DN 131:14825
TI A method of increasing nucleic acid synthesis with ultrasound
IN Unger, Evan C.; McCreery, Thomas; Sadewasser, David
PA ImaRx Pharmaceutical Corp., USA
SO PCT Int. Appl., 124 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K048-00
ICS A61H001-00
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 1, 6, 9, 11, 13, 14
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9925385	A1	19990527	WO 1998-US23843	19981111
	W: AU, CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9913906	A1	19990607	AU 1999-13906	19981111
PRAI	US 1997-971540		19971117		
	WO 1998-US23843		19981111		

OS MARPAT 131:144128

AB The present invention is directed to a method of increasing nucleic acid synthesis in a cell comprising administering to the cell a therapeutically effective amt. of ultrasound for a therapeutically effective time such that said administration of said ultrasound results in said increased nucleic acid synthesis. The nucleic acid sequence may comprise an endogenous sequence or an exogenous sequence. In particular, the invention is directed to increasing the expression of stress proteins and repair proteins.

ST gene expression increase ultrasound nucleic acid synthesis

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(B2; method of increasing nucleic acid synthesis with ultrasound)

IT Transcription factors
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(Egr-1; method of increasing nucleic acid synthesis with ultrasound)

IT Heat-shock proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(HSP 27; method of increasing nucleic acid synthesis with ultrasound)

IT Heat-shock proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(HSP 60; method of increasing nucleic acid synthesis with ultrasound)

IT Heat-shock proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(HSP 90.alpha.; method of increasing nucleic acid synthesis with ultrasound)

IT Initiation factors (protein formation)
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(IF-3; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(RPA; method of increasing nucleic acid synthesis with ultrasound)

IT PCR (polymerase chain reaction)
(RT-PCR (reverse transcription-PCR); method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(Rad23; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(Rad; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(TP53; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(XPA (xeroderma pigmentosa A)-correcting; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(XPA; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(XPB nucleotide excision repair; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(XPG nucleotide excision repair; method of increasing nucleic acid synthesis with ultrasound)

IT Polyoxyalkylenes, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(alcs., carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Carbohydrates, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(aldoses, carrier, polymers contg.; method of increasing nucleic acid synthesis with ultrasound)

IT Transcription factors
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(c-fos; method of increasing nucleic acid synthesis with ultrasound)

IT Transcription factors
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(c-jun; method of increasing nucleic acid synthesis with ultrasound)

IT Transcription factors
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(c-myc; method of increasing nucleic acid synthesis with ultrasound)

IT Liposomes
Surfactants
(carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Cardiolipins
Fatty acids, biological studies
Glycolipids

Glycosphingolipids
Phosphatidic acids
Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
Phosphatidylglycerols
Phosphatidylinositols
Phosphatidylserines
Phospholipids, biological studies
Plasmalogens
Sphingolipids
Sphingomyelins
Sulfatides
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carrier; method of increasing nucleic acid synthesis with ultrasound

IT Lipids, biological studies
Metals, biological studies
Polymers, biological studies
Proteins, general, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carriers; method of increasing nucleic acid synthesis with ultrasound)

IT Lipids, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cationic, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cationic, carriers; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, microbial
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cox3; method of increasing nucleic acid synthesis with ultrasound)

IT Polyoxyalkylenes, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(deriv., carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Polyoxyalkylenes, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(derivs., carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Phosphates, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(diacetyl, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Diglycerides
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(digalactosyl, carrier; method of increasing nucleic acid synthesis

with ultrasound)

IT DNA repair
(excision; method of increasing nucleic acid synthesis with ultrasound)

IT Gene
(expression; method of increasing nucleic acid synthesis with ultrasound)

IT Lipids, biological studies
Phospholipids, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(fluorinated, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Surfactants
(fluorosurfactants, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(for interleukin 2; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(for nerve growth factor; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(for phenylalanine hydroxylase; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(for proinsulin; method of increasing nucleic acid synthesis with ultrasound)

IT Perfluorocarbons
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(gaseous or liq.; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(gene Cox3; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(gene ERCC1; method of increasing nucleic acid synthesis with ultrasound)

IT G proteins (guanine nucleotide-binding proteins)
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)

(gene RAS; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(gene TCP-1-B; method of increasing nucleic acid synthesis with ultrasound)

IT Transcription factors
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(junB; method of increasing nucleic acid synthesis with ultrasound)

IT Carbohydrates, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(ketoses, polymers contg., carrier; method of increasing nucleic acid synthesis with ultrasound)

IT T cell (lymphocyte)
(killer cell; method of increasing nucleic acid synthesis with ultrasound)

IT Animal cell
(mammalian; method of increasing nucleic acid synthesis with ultrasound)

IT Liver, neoplasm
(metastasis; method of increasing nucleic acid synthesis with ultrasound)

IT Acoustic devices
Alzheimer's disease
Animal cell
Antitumor agents
DNA formation
DNA sequences
Diabetes mellitus
Gene therapy
Liver
Muscle
Neoplasm
Nucleic acid amplification (method)
Phenylketonuria
Plant cell
Plasmids
Protein sequences
RNA sequences
Sound and Ultrasound
Transcription, genetic
Transformation, genetic
Translation, genetic
(method of increasing nucleic acid synthesis with ultrasound)

IT cDNA
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(method of increasing nucleic acid synthesis with ultrasound)

IT Probes (nucleic acid)
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT mRNA
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)

(method of increasing nucleic acid synthesis with ultrasound)

IT Interleukin 6
p53 (protein)
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Antisense oligonucleotides
Perfluoro compounds
Primers (nucleic acid)
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Calsequestrin
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT DNA
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Heat-shock proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Nucleic acids
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, general, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT RNA
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Ras proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT Liquids
(oils, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(oncogene; method of increasing nucleic acid synthesis with ultrasound)

IT Halides
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(org., gaseous or liq.; method of increasing nucleic acid synthesis with ultrasound)

IT Fluorides, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(org.; method of increasing nucleic acid synthesis with ultrasound)

IT Perfluoro compounds
Perfluoro compounds
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(perfluoroalkyl ethers; method of increasing nucleic acid synthesis with ultrasound)

IT Ethers, biological studies
Ethers, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(perfluoroalkyl; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(pericentrin; method of increasing nucleic acid synthesis with ultrasound)

IT Acids, biological studies
Amines, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(polymers contg., carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(repair; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(stress-induced; method of increasing nucleic acid synthesis with ultrasound)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(structural; method of increasing nucleic acid synthesis with ultrasound)

IT Carbohydrates, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(sulfonated, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT Enzymes, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(ubiquitin-conjugating; method of increasing nucleic acid synthesis with ultrasound)

IT 9000-63-5, ATPase
RL: BAC (Biological activity or effector, except adverse); BPR (Biological

process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(calcium-activated; method of increasing nucleic acid synthesis with ultrasound)

IT 50-69-1D, Ribose, polymers contg. 50-99-7D, Glucose, polymers contg. 57-09-0, CTAB 57-10-3, Palmitic acid, biological studies 57-11-4, Octadecanoic acid, biological studies 57-48-7D, Fructose, polymers contg. 57-88-5, Cholesterol, biological studies 57-88-5D, Cholesterol, derivs. 57-88-5D, Cholesterol, ester and salt [illegible], DPH [illegible], Xylose, polymers contg. 59-23-4D, Galactose, polymers contg. [illegible]-42-[illegible], Lyxose, polymers contg. 87-79-6D, Sorbose, polymers contg. 112-80-1, 9-Octadecenoic acid (9Z)-, biological studies 114-04-5D, Neuraminic acid, polymers contg. 124-30-1, Stearylamine 147-81-9D, Arabinose, polymers contg. 506-32-1, Arachidonic acid 526-95-4D, Gluconic acid, polymers contg. 685-73-4D, Galacturonic acid, polymers contg. 926-66-[illegible] 1122-58-3, DMAP 1256-86-6, Cholesterol sulfate 1398-61-4, Chitin 1398-61-4D, Chitin, deriv. 1510-21-0, Cholesterol hemisuccinate 1758-51-6D, Erythrose, polymers contg. 2152-76-3D, Idose, polymers contg. 2390-68-3, DDAB 2462-63-7, DOPE 2644-64-6, Dipalmitoylphosphatidylcholine 3416-24-8D, **Glucosamine**, polymers contg. 3458-28-4D, Mannose, polymers contg. 3700-67-2, Dimethyldioctadecylammonium bromide 4235-95-4, DOPC 4345-03-3 4458-31-5 4539-70-2, Distearoylphosphatidylcholine 5556-48-9D, Ribulose, polymers contg. 5962-29-8D, Xylulose, polymers contg. 5987-68-8D, Altrose, polymers contg. 6038-51-3D, Allose, polymers contg. 6556-12-3D, **Glucuronic** acid, polymers contg. 6561-76-8, DCPE 6814-36-4D, Mannuronic acid, polymers contg. 7439-95-4, Magnesium, biological studies 7440-66-6, Zinc, biological studies 7440-70-2, Calcium, biological studies 7535-00-4D, Galactosamine, polymers contg. 9000-07-1, Carrageenan 9000-69-5, Pectin 9002-88-4D, Polyethylene, derivs. 9002-89-5D, Polyvinyl alcohol, derivs. 9003-07-0D, Polypropylene, derivs. 9003-39-8, Polyvinylpyrrolidone 9003-39-8D, Polyvinylpyrrolidone, deriv. 9004-32-4 9004-34-6, Cellulose, biological studies 9004-54-0, Dextran, biological studies **9004-61-9, Hyaluronic acid 9004-61-9D , Hyaluronic acid**, deriv. 9004-65-3, Hydroxypropyl methylcellulose 9005-32-7, Alginic acid 9005-79-2, Glycogen, biological studies 9005-82-7, Amylose 9007-27-6, Chondroitin 9012-36-6, Agarose 9012-72-0D, Glucan, derivs. 9013-95-0, Levan 9014-63-5D, Xylan, derivs. 9036-88-8D, Mannan, derivs. 9037-22-3, Amylopectin 9037-55-2D, Galactan, derivs. 9037-90-5D, Fructan, derivs. 9046-38-2D, Galacturonan, derivs. 9046-40-6, Pectic acid 9057-02-7, Pullulan 9060-75-7D, Arabinan, derivs. 9072-19-9, Fucoidan 15769-56-9D, Guluronic acid, polymers contg. 17598-81-1D, Tagatose, polymers contg. 18656-38-7, Dimyristoylphosphatidylcholine 18656-40-1, Dilauroylphosphatidylcholine 19163-87-2D, Gulose, polymers contg. 19600-01-2, Ganglioside GM2 19698-29-4, Dipalmitoylphosphatidic acid 20064-29-3 20255-95-2, DMPE 23140-52-5D, Psicose, polymers contg. 24305-42-8 24529-88-2 25322-68-3D, Polyethylene glycol, alcs. 25322-68-3D, Polyethylene glycol, deriv. 25322-68-3D, derivs. 25525-21-7D, Glucaric acid, polymers contg. 29884-64-8D, Threose, polymers contg. 30077-17-9D, Talose, polymers contg. 37331-28-5, Pustulan 37758-47-7, Ganglioside GM1 40031-31-0D, Erythrulose, polymers contg. 60495-58-1, Galactocarolose 64612-25-5D, Fucan, derivs. 67896-63-3, Dipentadecanoylphosphatidylcholine 68354-92-7 68354-99-4 68737-67-7, Dioleoylphosphatidylcholine 69992-87-6, Keratan 73294-85-6 75634-40-1, Dermatan 76822-97-4 78543-25-6 83354-62-[illegible] 106392-12-5, Pluronic 106392-12-5D, Pluronic, acid and alc. derivs. 108032-13-9 115534-33-3, TMADPH 124050-77-7, Transfectam 124076-2[illegible] 127512-30-5 128835-92-7, Lipofectin 137056-72-5, DC-Chol 144189-73-1, DOTAP 145035-97-8, Dipalmitoylphosphatidylethanolamine-PEG 145310-87-8, Transfectace 153312-64-2, DMRIE 158571-62-1,

Lipofectamine 161293-59-0 161441-83-4 165407-84-1, DOHME 168479-03-6, DOSPA 182919-20-8 183283-19-4, EDMPC 184196-81-3 199171-54-5, DLRIE 201491-17-6, Cytofectin 214206-82-5 214206-84-7 225940-35-2 225940-36-3 225941-37-4 225941-38-5 225941-42-1 225940-43-2
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carrier; method of increasing nucleic acid synthesis with ultrasound)

IT 9002-98-6 25104-18-1, Poly L-lysine 26913-06-4, Poly[imino(1,2-ethanediyl)] 34000-06-5, Poly L-lysine
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carriers; method of increasing nucleic acid synthesis with ultrasound)

IT 132172-61-3
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cationic, carrier; method of increasing nucleic acid synthesis with ultrasound)

IT 9029-70-6, Phenylalanine hydroxylase
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 57-00-1 9001-05-2, Catalase 9028-04-0 9059-22-7, Heme oxygenase 59088-22-1, 3-Methyladenine DNA glycosylase 106640-78-2, Synthetase, transfer ribonucleate 142805-58-1, MAP kinase kinase
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 75-71-8, Dichlorodifluoromethane 75-72-9, Chlorotrifluoromethane 75-73-0 76-14-2 76-15-3 76-16-4 76-19-7, Perfluoropropane 115-25-3, Perfluorocyclobutane 116-15-4 127-21-9, 1,3-Dichlorotetrafluoroacetone 306-94-5, Perfluorodecalin 307-34-6, Perfluorooctane 307-45-9, Perfluorodecane 307-59-5, Perfluorododecane 311-89-7, Perfluorotributylamine 335-57-9, Perfluoroheptane 338-64-7 338-65-8, 1,1-Difluoro-2-chloroethane 338-83-0, Perfluorotripropylamine 348-57-2, 1-Bromo-2,4-difluorobenzene 350-51-6, 3-Fluorostyrene 353-59-3, Bromochlorodifluoromethane 353-83-3, 2-Iodo-1,1,1-trifluoroethane 354-58-5, 1,1,1-Trichloro-2,2,2-trifluoroethane 355-25-9, Perfluorobutane 355-42-0, Perfluorohexane 355-68-0, Perfluorocyclohexane 355-79-3, Perfluorotetrahydropyran 356-62-7, Bis(perfluoropropyl) ether 358-21-4, Perfluoro diethyl ether 359-37-4, Iodotrifluoroethylene 360-89-4, Perfluoro-2-butene 372-39-4, 3,5-Difluoroaniline 375-03-1 375-48-4, 1-Bromo-nonafluorobutane 375-96-2, Perfluorononane 377-36-6, 1,1,2,2,3,3,4,4-Octafluorobutane 392-42-7, 2-Chloropentafluoro-1,3-butadiene 400-44-2, 2-Chloro 1,1, **1,4**,4,4-hexafluoro-2-butene 406-58-6, 1,1,1,3,3-Pentafluorobutane 407-47-6, 2,2,2-Trifluoroethylacrylate 423-55-2, Perfluorooctylbromide 431-07-2, 1,1,2-Trifluoro-2-chloroethane 455-88-9, 2-Fluoro-5-nitrotoluene 456-48-4, 3-Fluorobenzaldehyde 507-63-1, Perfluorooctyliodide 593-98-6 665-16-7, Perfluoro methyl ethyl ether 677-69-0, Heptafluoro-2-iodopropane 678-26-2, Perfluoropentane 685-63-2, Perfluorobuta-1,3-diene 692-50-2, Perfluoro-2-butyne 706-82-1 873-88-1 1479-49-8, Perfluoro dimethyl ether 1584-03-8, Perfluoro-2-methyl-2-pentene 1649-08-7, 1,2-Dichloro-2,2-difluoroethane 1717-00-6 1842-05-3, 1,1-Dichloro-1,2-difluoroethane 1868-53-7, Dibromofluoromethane

2252-78-[illegible], 1-Bromo-1,1,2,3,3,3-hexafluoropropane 2366-52-1,
1-Fluorobutane 2551-62-4, Sulfur hexafluoride 4509-91-4,
5-Bromovaleryl chloride 7783-79-1, Selenium hexafluoride 7789-30-2,
Bromine pentafluoride 9061-61-4, Nerve growth factor 13782-76-8,
Perfluorobutylethyl ether 19493-30-2 22052-84-2 22052-86-4
22137-14-0 30283-91-1, Bromotrifluoroethane 66670-22-2 83935-39-1
86563-85-1, Perfluoro-4 methylquinolizidine 86714-21-8,
Perfluoro-N-cyclohexyl-pyrrolidine 163702-07-6 163712-[illegible]-7
170141-63-6, 3-(Trifluoromethoxy)-acetophenone 199171-49-8,
1,2-Dichloro-1,1,3-trifluoropropane 199171-50-1, 1,1,1,[illegible]-
Pentafluoropentane 221248-10-6 [illegible]-14-1
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 60267-61-0, Ubiquitin 141349-89-5
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 9035-68-1, Proinsulin
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(method of increasing nucleic acid synthesis with ultrasound)

IT 225921-10-8 225921-11-9 225921-13-1 225921-16-4 225921-17-5
225921-18-6 225921-19-7 225921-20-0 225921-21-1 225921-22-2
225921-23-3 225921-24-4 225921-26-6 225921-27-7 225921-28-8
225921-29-9 225921-30-2 225921-34-6 225921-36-8 225921-37-9
225921-38-0 225921-39-1 225921-40-4 225921-42-6 225921-44-8
225921-45-9 225921-46-0 225921-47-1 225921-48-2 225921-51-7
225921-54-0 225921-56-2 225921-59-5 225921-62-0 225921-65-3
225921-69-7 225921-72-2 225921-75-5
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(primer; method of increasing nucleic acid synthesis with ultrasound)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT **9004-61-9, Hyaluronic acid 9004-61-9D**
, Hyaluronic acid, deriv.
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(carrier; method of increasing nucleic acid synthesis with ultrasound)

RN 9004-61-9 HCAPLUS

CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9004-61-9 HCAPLUS

CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 22 OF 48 HCAPLUS COPYRIGHT 2013 ACS
AN 1999:242221 HCAPLUS
DN 131:71009
TI **Hyaluronan** synthesis in virus PBCV-1-infected Chlorella-like green algae
AU Graves, Michael V.; Burbank, Dwight E.; Roth, Robyn; Heuser, John; DeAngelis, Paul L.; Van Etten, James L.
CS Department of Plant Pathology, University of Nebraska, Lincoln, NE, 68583-0722, USA
SO Virology (1999), 257(1), 15-23
CODEN: VIRLAX; ISSN: 0042-6822
PB Academic Press
DT Journal
LA English
CC 10-2 (Microbial, Algal, and Fungal Biochemistry)
AB The authors previously reported that the Chlorella virus PBCV-1 genome encodes an authentic, membrane-assocd. glycosyltransferase, **hyaluronan** synthase (HAS). **Hyaluronan**, a linear polysaccharide chain composed of alternating .beta.**1,4** **-glucuronic** acid and .beta.1,3-N-**acetylglucosamine** groups, is present in vertebrates as well as a few pathogenic bacteria. Studies of infected cells show that transcription of the PBCV-1 has gene begins within 10 min of virus infection and ends at 60-90 min postinfection. The **hyaluronan** polysaccharide begins to accumulate as **hyaluronan** lyase-sensitive, hair-like fibers on the outside of the Chlorella cell wall by 15-30 min postinfection; by 240 min postinfection, the infected cells are coated with a dense fibrous network. This **hyaluronan** slightly reduces attachment of a second Chlorella virus to the infected algae. An anal. of 41 addnl. Chlorella viruses indicates that many, but not all, produce **hyaluronan** during infection. (c) 1999 Academic Press.
ST virus PBCV1 **hyaluronan** formation Chlorella infection
IT Cell wall
Chlorella
Green algae (Chlorophyta)
Infection
Paramecium bursaria Chlorella virus 1
(**hyaluronan** synthesis in virus PBCV-1-infected Chlorella-like green algae)
IT **9004-61-9P, Hyaluronan**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(**hyaluronan** synthesis in virus PBCV-1-infected Chlorella-like green algae)
IT 39346-46-5, **Hyaluronan** synthase
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(in **hyaluronan** synthesis in virus PBCV-1-infected Chlorella-like green algae)
RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
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IT **9004-61-9P, Hyaluronan**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(**hyaluronan** synthesis in virus PBCV-1-infected Chlorella-like green algae)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 23 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1998:760185** HCAPLUS
DN **130:23356**
TI Enrichment and culturing of dendritic **cells** using low-molecular-weight fragments of **hyaluronic acid** to induce their terminal **differentiation**
IN Simon, Jan; Termeer, Christian
PA Klinikum der Albert-Ludwigs Universitaet Freiburg, Germany
SO Ger., 8 pp.
CODEN: GWXXAW
DT Patent
LA German
IC ICM C12N005-08
ICA A61K039-39
CC 13-5 (Mammalian Biochemistry)
Section cross-reference(s): 9, 15
FAN.CNT 1

STIC - PTO

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19802840	C1	19981119	DE 1998-19802840	19980123
PRAI	DE 1998-19802840		19980123		

AB A method enriching dendritic **cells** from monocyte populations, culturing them, and inducing their terminal **differentiation** is described. Mononuclear **cells** are selected for **cells** with **CD14** on their surfaces, e.g. by **cell**-sorting, and the selected **cells** are cultured in the presence of GM-CSF (500 - 1000 units/mL) and interleukin 4 (100 - 1000 units/mL). Cultured **cells** are then treated with low mol. wt. **hyaluronic acid** to complete their irreversible **differentiation** into dendritic **cells**. The **hyaluronic acid** is fragmented by sonication of a com. **hyaluronic acid** prepn. to an av. size of 1-10 disaccharide repeats.

ST dendritic **cell** selection culture **differentiation** **hyaluronic acid** fragments

IT **CD14** (antigen)
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(as marker for selection of dendritic **cells**; enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

IT Dendritic **cell**
(enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

IT Interleukin 4
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in culture of dendritic **cells**; enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

IT **Cell differentiation**
(of dendritic **cells**, from monocytes; enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

IT Animal tissue culture
(of dendritic **cells**; enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

IT Mononuclear **cell** (leukocyte)
(selection of dendritic **cells** from; enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

IT **Antibodies**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(to **CD14**, in selection of dendritic **cells**; enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

IT 83869-56-1, GM-CSF
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in culture of dendritic **cells**; enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(low mol.-wt.; enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(low mol.-wt.; enrichment and culturing of dendritic **cells** using low-mol.-wt. fragments of **hyaluronic acid** to induce their terminal **differentiation**)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 24 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1998:725173** HCAPLUS
DN **130:94158**
TI **CD44** occupancy prevents macrophage multinucleation
AU Sterling, Hyacinth; Saginario, Charles; Vignery, Agnes
CS Departments of Cell Biology and Orthopaedics and Rehabilitation, Yale University School of Medicine, New Haven, CT, 06510, USA
SO Journal of Cell Biology (1998), 143(3), 837-847
CODEN: JCLBA3; ISSN: 0021-9525
PB Rockefeller University Press
DT Journal
LA English
CC 15-2 (Immunochemistry)
Section cross-reference(s): 13, 14
AB **Cells** of the mononuclear phagocyte lineage have the capability to adhere to and fuse with each other and to **differentiate** into osteoclasts and giant **cells**. To investigate the macrophage adhesion/fusion mechanism, the authors focused their attention on **CD44**, a surface glycoprotein known to play a role in hematopoietic **cell-cell** adhesion. They report that **CD44** expression by macrophages is highly and transiently induced by fusogenic conditions both in vitro and in vivo. They show that **CD44** ligands, **hyaluronic acid**, chondroitin sulfates, and osteopontin prevent macrophage multinucleation. In addn., the authors report that the recombinant extracellular domain of **CD44** binds fusing macrophages and prevents multinucleation in vitro. Thus, **CD44** may control the mononucleated status of macrophages in tissues by virtue of mediating **cell-cell** interaction.
ST **CD44** antigen macrophage multinucleation
IT **Cell** adhesion
Cell differentiation
Cell fusion
Macrophage
Osteoclast
(**CD44** controls macrophage mononucleated status by virtue of mediating **cell-cell** interaction)
IT **CD44 (antigen)**
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(**CD44** controls macrophage mononucleated status by virtue of mediating **cell-cell** interaction)
IT Osteopontin
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)
(**CD44** controls macrophage mononucleated status by virtue of mediating **cell-cell** interaction)

IT Macrophage
(giant **cell**; **CD44** controls macrophage mononucleated status by virtue of mediating **cell-cell** interaction)

IT **9004-61-9**, **Hyaluronic acid** 24967-93-9, Chondroitin sulfate A 24967-94-0, Chondroitin sulfate B
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(**CD44** controls macrophage mononucleated status by virtue of mediating **cell-cell** interaction)

RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT **9004-61-9**, **Hyaluronic acid**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)
CD44 controls macrophage mononucleated status by virtue of mediating **cell-cell** interaction
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 25 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1998:658849** HCAPLUS
DN **130:23962**
TI Adhesive and/or signaling functions of **CD44** isoforms in human dendritic **cells**
AU Haegel-Kronenberger, Helene; de la Salle, Henri; Bohbot, Alain; Oberling, Francis; Cazenave, Jean-Pierre; Hanau, Daniel
CS Institut National de la Sante et de la Recherche Medicale (INSERM) CUF 94-03 and INSERM Unite 311, Strasbourg, Fr.
SO Journal of Immunology (1998), 161(8), 3902-3911
CODEN: JOIMA3; ISSN: 0022-1767
PB American Association of Immunologists
DT Journal
LA English
CC 15-5 (Immunochemistry)
AB The regulation and function of the **CD44** family of surface glycoproteins were investigated in human monocyte-derived dendritic **cells** (DCs). Variant **CD44** isoform transcripts encoding exons v3, v6, and v9 are differently regulated during the **differentiation** of monocytes into DCs. TNF-.alpha. treatment, which induces the maturation of DCs, up-regulates the expression of all v3-, v6-, and v9-contg. isoforms examd. **CD44** mols. are involved in the adhesion of DCs to immobilized **hyaluronate** (HA), and v3- and v6-contg. variants participate in this function, whereas anti-**CD44v9 mAbs** were unable to inhibit DC adhesion to HA. The consequences of ligand binding to **CD44** were examd. by culturing DCs on dishes coated with HA or various **anti-CD44 mAbs**. HA, the anti-pan **CD44 mAb** J173, and **mAbs** directed against v6- and v9-contg. (but not v3-contg.) isoforms provoked DC aggregation, phenotypic and functional maturation, and the secretion of IL-8, TNF-.alpha., IL-1.beta., and granulocyte-macrophage CSF. In addn., IL-6, IL-10, and IL-12 were released by DCs stimulated with either J173 or HA, although these cytokines were not detected or were found only at low levels in the culture supernatants of DCs treated with anti-**CD44v6** or anti-**CD44v9 mAbs**. Our study points to distinct capacities of the v3-, v6-, and v9-contg. isoforms expressed by human DCs to mediate **cell** adhesion to HA and/or a signal inducing DC maturation and the secretion of cytokines.
ST **CD44** isoform dendritic **cell differentiation** adhesion cytokine
IT **Cell** adhesion
Cell aggregation
Cell differentiation
Dendritic **cell**
Monocyte
Signal transduction, biological
(adhesive and/or signaling functions of **CD44** isoforms in human monocyte-derived dendritic **cells**)
IT Tumor necrosis factors
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(adhesive and/or signaling functions of **CD44** isoforms in human monocyte-derived dendritic **cells**)

IT Interleukin 10
Interleukin 1.beta.
Interleukin 6
Interleukin 8
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(adhesive and/or signaling functions of **CD44** isoforms in human monocyte-derived dendritic **cells**

IT **CD44 (antigen)**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(isoforms; adhesive and/or signaling functions of **CD44** isoforms in human monocyte-derived dendritic **cells**)

IT **9004-61-9, Hyaluronic acid**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(adhesive and/or signaling functions of **CD44** isoforms in human monocyte-derived dendritic **cells**)

IT 83869-56-1, Gm-csf
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(adhesive and/or signaling functions of **CD44** isoforms in human monocyte-derived dendritic **cells**)

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT **9004-61-9, Hyaluronic acid**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(adhesive and/or signaling functions of **CD44** isoforms in human monocyte-derived dendritic **cells**)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (6CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 26 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1998:584969** HCAPLUS
DN **129:300531**
TI Two different functions for **CD44** proteins in human myelopoiesis
AU Moll, J.; Khaldoyanidi, S.; Sleeman, J. P.; Achtnich, M.; Preuss, I.; Ponta, H.; Herrlich, P.
CS Forschungszentrum Karlsruhe, Institut fur Genetik, Karlsruhe, D-76021, Germany
SO Journal of Clinical Investigation (1998), 102(5), 1024-1034
CODEN: JCINAO; ISSN: 0021-9738
PB Rockefeller University Press
DT Journal
LA English
CC 13-6 (Mammalian Biochemistry)
AB **CD44** is important during myelopoiesis, although the contributions of variant **CD44** proteins are unclear. We show here that in human long-term **bone marrow** culture **antibodies** recognizing a **CD44** NH2-terminal epitope (**mab** 25-32) or a **CD44v6** epitope (**mab** VFF18) inhibit myelopoiesis. However, **mab** 25-32 but not **mab** VFF18 affects myeloid colony formation. These data suggest that an early precursor **cell** compartment is the target for the 25-32 **antibody**, whereas the **mab** VFF18 targets later stages in myelopoiesis. Since the bulk of hemopoietic precursor **cells** are neg. for the v6 epitope and only a minor subset of myeloid **cells** express the v6 epitope, we have used several human myeloid progenitor **cell** lines to unravel the function of different **CD44** proteins. These **cell** lines produce variant **CD44** proteins, predominantly a new variant **CD44v4**-v10, when stimulated towards myeloid **differentiation**. Features that can be acquired by the expression of **CD44v4**-v10 are an increased **hyaluronate** (HA) and a de novo chondroitin sulfate A (CS-A)

binding. Although, the expression of **CD44v4**-v10 per se is necessary for HA and CS-A binding, the protein backbone seems to require appropriate glycosylation. HA binding results in **CD44**-mediated cellular self-aggregation and adhesion to the stromal **cell** line MS-5. In summary, our data suggest that different **CD44** proteins are important for at least two different steps in myelopoiesis.

CT **CD44** myelopoiesis myeloid **differentiation** **hyaluronate**; chondroitin sulfate **CD44** myelopoiesis myeloid **differentiation**

IT Glycosylation
(biol.; functions for **CD44** proteins in human myelopoiesis and its binding to **hyaluronate** and chondroitin sulfate A)

IT **Cell** adhesion
Cell differentiation
(functions for **CD44** proteins in human myelopoiesis and its binding to **hyaluronate** and chondroitin sulfate A)

IT **CD44 (antigen)**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(functions for **CD44** proteins in human myelopoiesis and its binding to **hyaluronate** and chondroitin sulfate A)

IT Hematopoietic precursor **cell**
(myeloid; functions for **CD44** proteins in human myelopoiesis and its binding to **hyaluronate** and chondroitin sulfate A)

IT Hematopoiesis
(myelopoiesis; functions for **CD44** proteins in human myelopoiesis and its binding to **hyaluronate** and chondroitin sulfate A)

IT **9004-61-9, Hyaluronic acid** 24967-93-9, Chondroitin sulfate A
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(functions for **CD44** proteins in human myelopoiesis and its binding to **hyaluronate** and chondroitin sulfate A)

RE.CNT 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT **9004-61-9, Hyaluronic acid**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(functions for **CD44** proteins in human myelopoiesis and its binding to **hyaluronate** and chondroitin sulfate A)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 27 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1997:765824** HCAPLUS
DN **128:59802**
TI The role of **hyaluronate** in morphogenesis of the neurons
AU Ushakova, G.; Nikonenko, I.; Skibo, G.; Witt, M.; Lepekhin, E.
CS Div. International Cent. Mol. Physiol., Natl. Acad. Sci. Ukr., Dnepropetrovsk, Ukraine
SO Neirofiziologiya (1997), 29(1), 21-27
CODEN: NEFZB2; ISSN: 0028-2561
PB Institut Fiziologii im. A. A. Bogomol'tsa NAN Ukrainy
DT Journal
LA English
CC 13-3 (Mammalian Biochemistry)

AB The data about organization of the extracellular matrix (ECM) components and their interplay in the mammalian brain are rather limited. **Hyaluronate** (HA) is one of the main ECM glycosaminoglycans. Its location and function in the brain are believed to be mediated through its interaction with HA-binding proteins and proteoglycans. In this report, we describe distribution of the total HA-binding activity in the **cells** in the course of postnatal development of the rat brain and the effect of HA on cultured neurons. High level of the HA-binding activity was found in the newborn cerebellum, but it quickly decreased after postnatal day 1. On postnatal day 5, strong HA-binding activity was demonstrated only in apical parts of growth cones of Purkinje **cells**. The data showed rapid downregulation of HA-binding activity at the first stage of cerebellum maturation (migration of granule **cells** and beginning of neuron **differentiation**. To obtain more information concerning a key role of HA in neuron morphogenesis, low d. **cell** cultures of the hippocampal neurons were used. The presence of HA in the substrate led to an increase in the **cell** adherence. However, a part of **cells** got **differentiated** later. These data allow us to suggest that interactions between extracellular HA and **cell**-surface receptors can regulate motility and **differentiation** of the neurons.

ST **hyaluronate** morphogenesis neuron brain development

IT Nerve
(Purkinje **cell**; **hyaluronate**-binding protein in **cells** in postnatal development of brain and role of **hyaluronate** in morphogenesis of neurons)

IT Brain
(cerebellum; **hyaluronate**-binding protein in **cells** in postnatal development of brain and role of **hyaluronate** in morphogenesis of neurons)

IT Brain
(hippocampus; **hyaluronate**-binding protein in **cells** in postnatal development of brain and role of **hyaluronate** in morphogenesis of neurons)

IT Brain
Cell adhesion
Cell differentiation
Development, mammalian postnatal
Extracellular matrix
Morphogenesis, animal
Newborn
(**hyaluronate**-binding protein in **cells** in postnatal development of brain and role of **hyaluronate** in morphogenesis of neurons)

IT **CD44 (antigen)**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(**hyaluronate**-binding protein in **cells** in postnatal development of brain and role of **hyaluronate** in morphogenesis of neurons)

IT Nerve
(neuron; **hyaluronate**-binding protein in **cells** in postnatal development of brain and role of **hyaluronate** in morphogenesis of neurons)

IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**hyaluronate**-binding protein in **cells** in postnatal development of brain and role of **hyaluronate** in morphogenesis of neurons)

IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological

process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
hyaluronate-binding protein in cells in postnatal development of brain and role of hyaluronate in morphogenesis of neurons)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

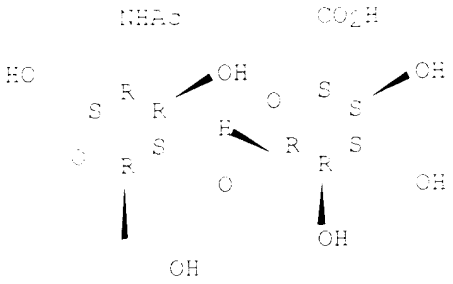
L127 ANSWER 26 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:338223 HCAPLUS
DN 127:50908
TI Motional properties of E. Coli polysaccharide K5 in aqueous solution analyzed by NMR relaxation measurements
AU Hricovini, Milos; Guerrini, Marco; Torri, Giangiacomo; Casu, Benito
CS Institute of Chemistry and Biochemistry "G. Ronzoni", Milan, I-20133, Italy
SO Carbohydrate Research (1997), 300(1), 69-76
CODEN: CRBRAT; ISSN: 0008-6215
PB Elsevier
DT Journal
LA English
CC 33-8 (Carbohydrates)
Section cross-reference(s): 22
AB 13C NMR relaxation measurements at three different magnetic field strengths have been used to analyze the motional properties of a low mol. wt. K5 polysaccharide (.DELTA.UA-(.fwdarw. 4)-.beta.-D-GlcNAc(1 .fwdarw. 4)-.beta.-D-GlcA(1 .fwdarw.)n-GlcNacred) from E. coli. Two-dimensional double INEPT spectra with suppression of cross-correlation effects between dipolar and chem. shift anisotropy relaxation mechanisms were collected in order to det. carbon longitudinal and transverse relaxation times. The values of the overall correlation time and the rate of internal motions were obtained using the model free spectral densities. The data indicate that the overall motion of the mol. is non-isotropic and can be approximated with the sym. top model with an axial ratio of .apprx. 22. The magnitude of the generalized order parameter (S2 .apprx. 0.8) and the internal motion correlation time (.tau.e .apprx. 30 ps) differ from those found for iduronic acid-contg. glycosaminoglycans and suggest that the internal motions in K5 polysaccharide are more limited.
ST glycosaminoglycan uronic acid polysaccharide prepn; mol dynamics polysaccharide aq soln NMR
IT Polysaccharides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(E. Coli K5; motional properties of E. Coli polysaccharide K5 in aq. soln. analyzed by NMR relaxation measurements)
IT Uronic acids
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(E. Coli polysaccharide K5; motional properties of E. Coli polysaccharide K5 in aq. soln. analyzed by NMR relaxation measurements)
IT Molecular dynamics
(motional properties of E. Coli polysaccharide K5 in aq. soln. analyzed by NMR relaxation measurements)
IT **191165-02-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(motional properties of E. Coli polysaccharide K5 in aq. soln. analyzed by NMR relaxation measurements)
IT **191165-02-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(motional properties of E. Coli polysaccharide K5 in aq. soln. analyzed by NMR relaxation measurements)
RN 191165-02-3 HCAPLUS
CN .alpha.-D-Glucopyranose, 2-(acetylamino)-2-deoxy-4-O-.beta.-D-

glucopyranuronosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79245-10-6
CMF C14 H23 N O12

Absolute stereochemistry.



L127 ANSWER 29 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1997:182793** HCAPLUS
DN **126:250024**
TI **CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines
AU Legras, Stephane; Levesque, Levesque; **Charrad, Rachida**; Morimoto, Kohji; Le Bousse, Caroline; Clay, Denis; **Jasmin, Claude**; **Smadja-Joffe, Florence**
CS Institut National de la Sante et de la Recherche Medicale U268, Hopital Paul Brousse, Villejuif, 94800, Fr.
SO Blood (1997), 89(6), 1905-1914
CODEN: BLOOAW; ISSN: 0006-4971
PB Saunders
DT Journal
LA English
CC 15-5 (Immunochemistry)
AB Adhesive interactions between CD34+ hematopoietic progenitor cells (HPC) and bone marrow stroma are crucial for normal hematopoiesis, yet their mol. bases are still poorly elucidated. We have investigated whether cell surface proteoglycan **CD44** can mediate adhesion of human CD34+ HPC to immobilized **hyaluronan** (HA), an abundant glycosaminoglycan of the bone marrow extracellular matrix. Our data show that, although CD34+ cells strongly express **CD44**, only 13.3 .+-. 1.1% spontaneously adheres to HA. Short-term methylcellulose assay showed that HA-adherent CD34+ cells comprised granulo-monocytic and erythroid committed progenitors (19.6% .+-. 2.5% and 7.3% .+-. 1.8% of the input, resp.). More primitive progenitors, such as pre-colony-forming units, also adhered to HA. Moreover, we found that **CD44**-mediated adhesion of CD34+ cells to HA could be enhanced by phorbol 12-myristate 13-acetate (PMA), the function-activating **anti-CD44** monoclonal **antibody** H90, and cytokines such as granulocyte-monocyte colony-stimulating factor, interleukin-3 (IL-3), and stem cell factor. Enhancement through PMA required several hours, was protein-synthesis-dependent, and was assocd. with an increase of **CD44** cell surface expression, whereas stimulation of adhesion by H90 monoclonal **antibody** and cytokines was very rapid and without alteration of **CD44** expression. H90-induced activation occurred at 4.degree. and lasted for at least 2 h, whereas activation by cytokines required incubation at 37.degree. and was transient. These data, which show for the first time that CD34+ HPC can directly adhere to HA via **CD44**, point out that this adhesive interaction to HA is a process

that may also be physiol. regulated by cytokines.
IT **CD44 hyaluronan** adhesion hematopoietic progenitor cytokine
IT Adhesion, biological
Bone marrow
Hematopoiesis
Hematopoietic precursor cell
Signal transduction, biological
(**CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines)
IT Interleukin 3
Stem cell factor
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines)
IT **CD44 (antigen)**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines)
IT **Glycoproteins, specific or class**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**H-CAM** (**homing cell adhesion mol.**); **CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines)
IT Hematopoietic precursor cell
(erythroid; **CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines)
IT Hematopoietic precursor cell
(granulocyte-macrophage; **CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines)
IT 83869-56-1, Gm-csf
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines)
IT **9004-61-9, Hyaluronan**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines)
IT **9004-61-9, Hyaluronan**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**CD44**-mediated adhesiveness of human hematopoietic progenitors to **hyaluronan** is modulated by cytokines)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L[illegible] ANSWER [illegible] OF 47 HCAPLUS COPYRIGHT 2008 ACS
AN 1997:53829 HCAPLUS
DN 126:79934
TI Heavy metal salts of succinic acid hemiesters with **hyaluronic acid**, or **hyaluronic acid** esters, a process for their preparation, and relative pharmaceutical compositions
IN Khan, Riaz; Konowicz, A. Paul; Flaibani, Antonella; Gombac, Valentina
PA Fidia Advanced Biopolymers S.R.L., Italy; Khan, Riaz; Konowicz, A. Paul;

Flaibani, Antonella; Gombac, Valentina
SO PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C08B037-08
ICS A61K047-48; A61K033-24
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 44

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9635720	A1	19961114	WO 1996-EP1979	19960508
W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2220682	AA	19961114	CA 1996-2220682	19960508
AU 9658944	A1	19961129	AU 1996-58944	19960508
AU 695512	B2	19980813		
EP 827514	A1	19980311	EP 1996-916030	19960508
EP 827514	B1	19990811		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 11504668	T2	19990427	JP 1996-533769	19960508
AT 183206	E	19990815	AT 1996-916030	19960508
ES 2137694	T3	19991216	ES 1996-916030	19960508
US 6017901	A	20000125	US 1997-966636	19971110
PRAI IT 1995-PD90		19950510		
WO 1996-EP1979		19960508		

AB **Hyaluronic acid** or **hyaluronic acid** ester derivs., wherein one or more hydroxy functions of its **1,4**-.beta.-D-**glucuronic** acid and 1,3-.beta.-N-acetyl-D-**glucosamine** alternating repeating units are esterified with a carboxyl group of succinic acid to form the succinic hemiester of **hyaluronic acid** or **hyaluronic acid** esters. These derivs. are used to prep. the corresponding heavy metal salts of succinic hemiesters of **hyaluronic acid** or with **hyaluronic acid** partial or total esters. These salts are used as active ingredients in the prepn. of pharmaceutical compns. to be used as antibacterial and disinfectant agents for the treatment of wounds, burns and ophthalmia or as anti-inflammatory agents in particular for the prepn. of pharmaceutical compns. for the treatment of osteoarticular disorders.

ST **hyaluronate** heavy metal salt pharmaceutical; succinate **hyaluronate** metal salt pharmaceutical

IT Anti-inflammatory agents
Burn
Cation exchangers
Osteoarthritis
Wound healing
(**hyaluronic acid** succinate heavy metal salts for pharmaceuticals)

IT Drug delivery systems
(topical; **hyaluronic acid** succinate heavy metal salts for pharmaceuticals)

IT 68-12-2, Dmf, uses
RL: CAT (Catalyst use); USES (Uses)
(**hyaluronic acid** succinate heavy metal salts for pharmaceuticals)

IT 108-30-5, Succinic anhydride, reactions 7447-39-4, Cupric chloride, reactions 7646-85-7, Zinc chloride, reactions 7761-88-8, Silver nitrate, reactions **9004-61-9, Hyaluronic acid** **9067-32-7, Sodium hyaluronate** 184876-81-1P
RL: RCT (Reactant); RACT (Reactant or reagent)
(**hyaluronic acid** succinate heavy metal salts for pharmaceuticals)

IT 184876-81-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**hyaluronic acid** succinate heavy metal salts for pharmaceuticals)

IT 184876-82-2DP, heavy metal salts 185322-87-0P 185322-88-1P 185322-89-2P 185322-90-5P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**hyaluronic acid** succinate heavy metal salts for pharmaceuticals)

IT **9004-61-9, Hyaluronic acid** **9067-32-7, Sodium hyaluronate**
RL: RCT (Reactant); RACT (Reactant or reagent)
(**hyaluronic acid** succinate heavy metal salts for pharmaceuticals)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9067-32-7 HCAPLUS
CN Hyaluronic acid, sodium salt (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 31 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1996:418487** HCAPLUS
DN **125:82844**
TI Evidence of involvement of **CD44** in endothelial cell proliferation, migration and angiogenesis in vitro
AU Trochon, Veronique; Mabilat, Christelle; Bertrand, Philippe; Legrand, Yves; **Smadja-Joffe, Florence**; Soria, Claudine; **Delpech, Bertrand**; Lu, He
CS Institut d'Hematologie, Hopital Saint Louis, Paris, F-75475, Fr.
SO International Journal of Cancer (1996), 66(5), 664-668
CODEN: IJCNAW; ISSN: 0020-7136
PB Wiley-Liss
DT Journal
LA English
CC 13-5 (Mammalian Biochemistry)
Section cross-reference(s): 14, 15
AB Angiogenesis is essential for tumor growth and metastasis. In the process of angiogenesis, the interaction between adhesive proteins of endothelial cells and extracellular matrix components plays an important role by mediating cell attachment, which is indispensable for their motility, and by transmitting the regulatory signals for cell locomotion and proliferation. Here, the authors exam. the hypothesis that **CD44** expressed on the endothelial cell surface is involved in the angiogenesis process. The expts. using calf pulmonary artery endothelial cells (CPAE) and a human microvascular endothelial cell line (HMEC-1) show that a monoclonal **antibody** against **CD44** (clone J 173) inhibits endothelial cell proliferation by about 30% and migration by 25-50%, and abolishes the stimulating effect of **hyaluronan** polysaccharides on endothelial cell migration and proliferation. This **antibody** also suppresses the capillary formation of CPAE in an in vitro model of angiogenesis using fibrin matrix. These results provide

evidence of the involvement of endothelial-cell-assocd. **CD44** in angiogenesis.

ST **CD44** antigen angiogenesis

IT Blood vessel
Cell proliferation
(endothelial cell-assocd. **CD44** antigen role in angiogenesis)

IT **Antigens**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**CD44**, endothelial cell-assocd. **CD44** antigen role in angiogenesis)

IT Blood vessel
(endothelium, endothelial cell-assocd. **CD44** antigen role in angiogenesis)

L107 ANSWER 32 OF 48 HCAPLUS COPYRIGHT 2003 ACS

AN **1996:361912** HCAPLUS

DN **125:54976**

TI Suppressed expression of **CD44** variant isoforms during human glioma A172 **cell differentiation** induced by cyclic AMP

AU Sakai, Hideki; Nakashima, Shigeru; Yoshimura, Shin-ichi; Nakatani, Kei; Shinoda, Jun; Sakai, Noboru; Yamada, Hiromu; Nozawa, Yoshinori

CS Department of Neurosurgery, Gifu University School of Medicine, Tsukasamachi-40, Gifu, 500, Japan

SO Neuroscience Letters (1996), 210(3), 189-192
CODEN: NELED5; ISSN: 0304-3940

PB Elsevier

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

AB **CD44** is a major receptor for **hyaluronic acid**, which is the most frequent route of malignant glioma invasion. Multiple isoforms of **CD44** are generated by alternative mRNA splicing. The authors have examd. differential expression of **CD44** variant isoforms (**CD44vs**) during dibutyryl cAMP (dbcAMP)/theophylline-induced **differentiation** of human glioma A172 **cells** using reverse transcriptase-polymerase chain reaction (RT-PCR). Treatment of **cells** with dbcAMP and theophylline caused decreased expression of all **CD44** isoforms after 24 h. The **CD44** std. form was obsd. to return to the unstimulated level after 72 h, whereas the variant isoforms, **CD44** 8v-10v and 10v, remained at the low level after 24-72 h. Changes of **CD44vs** were correlated with the level of expression of c-jun. Apparently, the expression patterns of **CD44vs** might correlate with cellular **differentiation** in human glioma **cells**.

ST glioma **differentiation CD44**

IT **Cell differentiation**
(expression pattern of **CD44** variant isoforms correlates with the cellular **differentiation** of human glioma **cells**)

IT **Antigens**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**CD44**, mRNA; expression pattern of **CD44** variant isoforms correlates with the cellular **differentiation** of human glioma **cells**)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(c-jun, expression pattern of **CD44** variant isoforms correlates with the cellular **differentiation** of human glioma **cells**)

IT Ribonucleic acid formation factors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene c-jun, mRNA; expression pattern of **CD44** variant

isoforms correlates with the cellular **differentiation** of human glioma **cells**)

IT Neuroglia
(neoplasm, expression pattern of **CD44** variant isoforms correlates with the cellular **differentiation** of human glioma **cells**)

IT **9004-61-9, Hyaluronic acid**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(expression pattern of **CD44** variant isoforms correlates with the cellular **differentiation** of human glioma **cells**

IT **9004-61-9, Hyaluronic acid**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(expression pattern of **CD44** variant isoforms correlates with the cellular **differentiation** of human glioma **cells**)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 33 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:164331 HCAPLUS
DN 124:205457
TI 13C-NMR Studies of **Hyaluronan**: Conformational Sensitivity to Varied Environments
AU Cowman, Mary K.; Hittner, Daniel M.; Feder-Davis, Joan
CS Six Metrotech Center, Polytechnic University, Brooklyn, NY, 11201, USA
SO Macromolecules (1996), 29(8), 2894-902
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
CC 44-5 (Industrial Carbohydrates)
AB **Hyaluronan** (HA) samples ranging in size from small oligosaccharides to high mol. wt. polymers were studied by 13C-NMR spectroscopy. In neutral aq. solns., the chem. shifts of carbons directly involved in the .beta.-1,3 **glucuronidic** linkage are found to be sensitive to (1) residue linkage position in short chains, (2) oligomer d.p., (3) solvent ionic strength, and (4) monovalent vs divalent counterions. The carbons of the .beta.-**1,4-glucosaminidic** linkage show less sensitivity to the above conditions. Thus conformational versatility for HA in aq. soln. is correlated with a chem. shift change primarily in carbons of the .beta.-1,3 linkage. The 13C spectrum of HA in neutral aq. salt solns. was compared to spectra obsd. in DMSO soln. (ordered 2- or 4-fold HA form) or the solid state (Na+ counterion, tetragonal 4-fold helical HA form). The solid state spectrum is similar to that found in DMSO but differs substantially from the aq. soln. spectrum. The differences are attributed to (1) rotation of the acetamido group, with concomitant change in H bonding and av. conformation at the .beta.-**1,4** linkage, and (2) loss of H bonds in aq. soln. and consequent change in av. conformation at the .beta.-1,3 linkage.
ST **hyaluronan** conformation sensitivity environment carbon NMR
IT Chains, chemical
(conformational sensitivity of **hyaluronan** to varied environments evaluated by 13C-NMR spectra)
IT Nuclear magnetic resonance spectrometry
(carbon-13, conformational sensitivity of **hyaluronan** to varied environments evaluated by 13C-NMR spectra
IT **9004-61-9, Hyaluronan**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(conformational sensitivity of **hyaluronan** to varied environments evaluated by 13C-NMR spectra)

IT 9004-61-9, Hyaluronan
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(conformational sensitivity of **hyaluronan** to varied environments evaluated by 13C-NMR spectra
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

... STRUCTURE DIAGRAM IS NOT AVAILABLE ...

L12 ANSWER 34 OF 48 HCAPLUS COPYRIGHT 2008 ACS
AN 1995:955578 HCAPLUS
DN 124:51569
TI Induction of a **hyaluronan** receptor, **CD44**, during embryonal carcinoma and embryonic stem **cell differentiation**
AU Wheatley, Susan C.; Isacke, Clare M.
CS Department Biology, Imperial College Science, Technology and Medicine, London, SW7 2BB, UK
SO Cell Adhesion and Communication (1995), 3(3), 217-36
CODEN: CADCEF; ISSN: 1061-8368
PB Harwood
DT Journal
LA English
CC 13-3 (Mammalian Biochemistry)
Section cross-reference(s): 3
AB This paper describes the expression profile of the **CD44** glycoprotein during **differentiation** of embryonal carcinoma (EC) and embryonic stem (ES) **cells**. The authors have recently shown that **CD44** is expressed in discrete embryonic structures and, in view of this, the authors sought an in vitro **differentiation** model of development in which the authors could study more readily the structure and function of the **CD44** mol. The P19 EC and CGR8 ES **cells** were chosen as they have the capacity to develop down the cardiac muscle pathway and the authors have previously demonstrated that **CD44** is expressed abundantly in the embryonic myocardium. The **differentiation** process in both **cell** types is accompanied by an induction of **CD44** mRNA and protein. However, in **differentiated** cultures **CD44** is not expressed in contractile **cells**, indicating that these P19 **cells** do not represent **CD44**-pos. embryonic cardiomyocytes. Expression of **CD44** is obsd. on fibroblast-like **cells** which appear to migrate over and out from the plated aggregates. **Hyaluronan**, the major ligand for **CD44**, is also assocd. with these **CD44**-pos. fibroblast-like **cells**. Apparently, expression of both receptor and ligand by the fibroblastic **cells** is required for **cell**:matrix adhesion and **cell** motility. As **CD44** is up-regulated in these cultures, P19 **cells** are now established as a useful model system to study the factors regulating expression of the **CD44** gene.
ST **hyaluronan** receptor **differentiation** P19 **cell** cardiomyocyte
IT **Cell differentiation**
Fibroblast
Heart
(**CD44** gene induction in **differentiating** P19 embryonic carcinoma **cells** (cardiomyocytes) in relation to fibroblast **cell**:matrix adhesion and **cell** motility)
IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**CD44**; **CD44** gene induction in **differentiating** P19 embryonic carcinoma **cells**

(cardiomyocytes) in relation to fibroblast **cell**:matrix adhesion and **cell** motility)

IT Embryo
(development; **aCD44** gene induction in **differentiating** P19 embryonic carcinoma **cells** (cardiomyocytes) in relation to fibroblast **cell**:matrix adhesion and **cell** motility)

IT Ribonucleic acids, messenger
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
hyaluronan receptor **CD44**; **CD44** gene induction in **differentiating** P19 embryonic carcinoma **cells** (cardiomyocytes) in relation to fibroblast **cell**:matrix adhesion and **cell** motility)

IT Development, mammalian
Senescence
(of heart; **CD44** gene induction in **differentiating** P19 embryonic carcinoma **cells** (cardiomyocytes) in relation to fibroblast **cell**:matrix adhesion and **cell** motility)

IT **Antigens**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**CD44**, gene; **CD44** gene induction in **differentiating** P19 embryonic carcinoma **cells** (cardiomyocytes) in relation to fibroblast **cell**:matrix adhesion and **cell** motility)

IT Adhesion
(bio-, **CD44** gene induction in **differentiating** P19 embryonic carcinoma **cells** (cardiomyocytes) in relation to fibroblast **cell**:matrix adhesion and **cell** motility)

IT **9004-61-9, Hyaluronan**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(**CD44** gene induction in **differentiating** P19 embryonic carcinoma **cells** (cardiomyocytes) in relation to fibroblast **cell**:matrix adhesion and **cell** motility)

IT **9004-61-9, Hyaluronan**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(**CD44** gene induction in **differentiating** P19 embryonic carcinoma **cells** (cardiomyocytes) in relation to fibroblast **cell**:matrix adhesion and **cell** motility)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 35 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1995:567652** HCAPLUS
DN **122:312567**
TI **CD44** is the major peanut lectin-binding glycoprotein of human epidermal keratinocytes and plays a role in intercellular adhesion
AU Hudson, David L.; Sleeman, Jonathan; Watt, Fiona M.
CS Imperial Cancer Research Fund, Keratinocyte Laboratory, London, WC2A 3PX, UK
SO Journal of Cell Science (1995), 108(5), 1959-70
CODEN: JCSAI; ISSN: 0021-9533
PB Company of Biologists
DT Journal
LA English
CC 15-2 (Immunochemistry)
AB Although binding of peanut agglutinin (PNA) to keratinocytes is often used as a marker of terminal **differentiation**, the identity of the PNA-binding glycoproteins has been unclear. We now show that an antiserum raised against the glycoproteins recognizes isoforms of **CD44**,

the most abundant of which could be labeled with [35S]sulfate, indicating the presence of glycosaminoglycan side chains. RT-PCR anal. showed that keratinocytes expressed at least 5 forms of **CD44** containing different nos. of exons from the variable region of the extracellular domain and also expressed the std. 'hemopoietic' form of **CD44** which lacks the variable exons. Std. and variant isoforms of **CD44** were expressed both by proliferating keratinocytes and **cells** undergoing terminal **differentiation**, although the level of **CD44** mRNAs decreased when keratinocytes were placed in suspension to induce **differentiation**. The role of **CD44** in intercellular adhesion was investigated by plating keratinocytes onto a rat pancreatic carcinoma line transfected with different **CD44** isoforms. Keratinocyte adhesion to transfectants expressing variant exons 4-7 was greater than to **cells** expressing std. **CD44** and could be inhibited with **hyaluronan** or digestion with hyaluronidase. These observations confirm earlier predictions that the PNA-binding glycoproteins of keratinocytes play a role in intercellular adhesion.

ST **CD44** antigen peanut lectin keratinocyte adhesion

IT **Cell differentiation**
(**CD44** is the major peanut lectin-binding glycoprotein of human epidermal keratinocytes and plays a role in intercellular adhesion)

IT Agglutinins and Lectins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**CD44** is the major peanut lectin-binding glycoprotein of human epidermal keratinocytes and plays a role in intercellular adhesion)

IT **Antigens**
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(**CD44**, **CD44** is the major peanut lectin-binding glycoprotein of human epidermal keratinocytes and plays a role in intercellular adhesion)

IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(agglutinin-binding, **CD44** is the major peanut lectin-binding glycoprotein of human epidermal keratinocytes and plays a role in intercellular adhesion)

IT Adhesion
(bio-, **CD44** is the major peanut lectin-binding glycoprotein of human epidermal keratinocytes and plays a role in intercellular adhesion)

IT Skin
(keratinocyte, **CD44** is the major peanut lectin-binding glycoprotein of human epidermal keratinocytes and plays a role in intercellular adhesion)

L127 ANSWER 36 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1994:575988** HCAPLUS
DN **121:175988**
TI Effects of **anti-CD44** monoclonal **antibody** on adhesion of erythroid leukemic cells (ELM-I-1) to hematopoietic supportive cells (MS-5): **CD44**, but not **hyaluronate**-mediated, cell--cell adhesion
AU Sugimoto, Kenkichi; Tsurumaki, Youko; Hoshi, Hideyuki; Kadowaki, Shinesuu; LeBousse-Kerdiles, M. C.; **Smadja-Joffe, Florence**; Mori, Kazuhiro J.
CS Fac. Sci., Niigata Univ., Niigata, 950-21, Japan
SO Experimental Hematology (New York, NY, United States) (1994), 22(6),

411-24
CODEN: EXHMAd; ISSN: 0301-472X
DT Journal
LA English
CC 13-5 (Mammalian Biochemistry)
AB Cocultivation of erythroid leukemic cells (ELM-I-1) with hemopoietic supportive cells (MS-5) resulted in a specific adhesion of ELM-I-1 cells to MS-5 cells. This phenomenon was designated as rosette formation. After induction of differentiation of ELM-I-1 cells, rosette formation was reduced, and no rosette formation was obsd. between erythrocytes and MS-5 cells. Studies on anti-adhesion mol. **antibody** treatment data revealed that **CD44** plays a key role in rosette formation. Expression of **CD44** on the membrane of ELM-I-1 cells was reduced after differentiation, and no **CD44** expression was detected on erythrocytes. **CD44** was also expressed on MS-5. **Hyaluronate** is known as the ligand of **CD44**, but neither hyaluronidase treatment nor addn. of excess **hyaluronate** to the assay system affected rosette formation. These data indicate that **hyaluronate** is not responsible for rosette formation. **Anti-CD44 antibody** (KM81), which recognized the **hyaluronate** binding site of **CD44**, inhibited rosette formation. But other monoclonal **antibodies** against different epitopes except for the **hyaluronate** binding site, even those against **CD44's hyaluronate** binding site, did not inhibit rosette formation. Thus, rosette formation between MS-5 cells and ELM-I-1 cells is mediated by **CD44** but not by the **hyaluronate** binding site of **CD44**.
ST erythropoiesis **CD44** antigen **hyaluronate**; erythroid progenitor cell adhesion **CD44**
IT Erythropoiesis
(**CD44** antigen mediation of precursor cell-stromal cell adhesion in, **hyaluronate**-independent)
IT **Antigens**
RL: BIOL (Biological study)
(**CD44**, erythroid progenitor cell adhesion to stromal supportive cells mediation by, **hyaluronate**-independent)
IT Adhesion
(bio-, of erythroid precursor cells to stromal supportive cells, **CD44** antigen mediation of, **hyaluronate**-independent)
IT **9004-61-9, Hyaluronate**
RL: BIOL (Biological study)
(**CD44** antigen mediation of erythroid progenitor cell adhesion to stromal supportive cells in relation to)
IT **9004-61-9, Hyaluronate**
RL: BIOL (Biological study)
(**CD44** antigen mediation of erythroid progenitor cell adhesion to stromal supportive cells in relation to)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 37 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1994:214803** HCAPLUS
DN **120:214803**
TI **CD44** expression in human **bone**: a novel marker of osteocytic **differentiation**
AU Hughes, D.E.; Salter, D.M.; Simpson, R.
CS Med. Sch., Univ. Edinburgh, Edinburgh, EH8 9AG, UK
SO Journal of Bone and Mineral Research (1994), 9(1), 39-44
CODEN: JBMREJ; ISSN: 0884-0431
DT Journal
LA English

CC 15-2 (Immunochemistry)
Section cross-reference(s): 13
AB **CD44** is a transmembrane glycoprotein with **cell-cell** and **cell-matrix** adhesion functions that is expressed by a wide variety of **cell** types and has a no. of known biol. functions. Because of its ability to bind matrix macromols., such as fibronectin, collagen, and **hyaluronate**, the authors investigated the possibility that it is expressed by the **cells** of **bone**, the matrix receptors of which are largely unknown. Immunohistochem. study of a variety of sources of human **bone** was carried out using a panel of 6 well-characterized **anti-CD44** monoclonal **antibodies**. Osteocytes strongly expressed **CD44**, whereas osteoblasts and lining **cells** were neg. Osteoclasts and periosteal **cells** also expressed **CD44**, although not as strongly as osteocytes. These patterns of staining were obsd. with all 6 **antibodies**. Thus, the acquisition of **CD44** immunoreactivity is a sensitive marker of osteocytic **differentiation** and **CD44** acts as a **cell** matrix receptor in **bone**.
ST **CD44** antigen **bone** osteocyte **differentiation**
IT Osteoclast
Osteocyte
(**differentiation** of, **CD44** antigen as marker for, of humans)
IT **Bone**
(formation of, **CD44** antigen as marker for, of humans)
IT **Cell differentiation**
(in **bone**, **CD44** antigen as marker for, of humans)
IT **Antigens**
RL: BIOL (Biological study)
(**CD44**, as osteocytic **differentiation** marker, of humans)
IT **Bone**
(periosteum, **differentiation** of, **CD44** antigen as marker for, of humans)

L127 ANSWER 38 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN **1994:189647** HCAPLUS
DN **120:189647**
TI **CD44** mediates **hyaluronan** binding by human myeloid KG1A and KG1 cells
AU Morimoto, K.; Robin, E.; Le Bousse-Kerdiles, M. C.; Li, Y.; Clay, D.; **Jasmin, C.**; **Smadja-Joffe, F.**
CS Hop. Paul Brousse, Villejuif, Fr.
SO Blood (1994), 83(3), 657-62
CODEN: BLOOAW; ISSN: 0006-4971
DT Journal
LA English
CC 15-10 (Immunochemistry)
AB **Hyaluronan**-binding function of the **CD44** mol. has not been so far detected in myeloid cells. To study pure populations of primitive myeloid cells, the authors investigated the **hyaluronan**-binding function of the **CD44** mol. from three myeloid cell lines: KG1a, KG1, and HL60. Both KG1a and KG1 cells express the CD34 antigen characteristic of the hematopoietic stem cells and HL60 cells do not; accordingly KG1a and KG1 cells are generally considered as the most primitive and HL60 cells as the most mature of these cell lines. Measurement of cell adhesion to **hyaluronan**-coated surfaces (using ^{51}Cr-labeled cells) and of aggregate formation in **hyaluronan**-contg. solns., showed that 45% of KG1 cells and 22% to 24% of KG1a spontaneously bind to **hyaluronan**, whereas HL60 cells do not either spontaneously or after treatment with a phorbol ester. **Hyaluronan** binding by KG1a and KG1 cells is mediated by

CD44, because it is specifically abolished by monoclonal **antibodies** (MoAbs) to this mol. The binding might require phosphorylation by protein kinase C and perhaps also by protein kinase A, because it is prevented by staurosporine, which inhibits these enzymes. TPA which activates protein kinase C, rises to 90% the proportion of KG1 and KG1a cells that bind **hyaluronan**; this activation is dependent on protein synthesis, for it is abrogated by cyclophosphamide, a protein synthesis inhibitor. Binding of TPA-treated cells to **hyaluronan** is only partly inhibited by MoAb to **CD44**: this suggests that TPA may induce synthesis of a **hyaluronan** -binding protein distinct from **CD44**. Considering the abundance of **hyaluronan** in human bone marrow, these results suggest that **CD44** may be involved in mediating precursor-stroma interaction.

ST **CD44** antigen **hyaluronan** binding myeloid cell

IT **Antigens**
RL: BIOL (Biological study)
(**CD44**, in **hyaluronan** binding to myeloid cells)

IT Hematopoietic precursor cell
(myeloid, **hyaluronan** binding to, **CD44** antigen in mediation of)

IT **9004-61-9, Hyaluronan**
RL: BIOL (Biological study)
(binding of, to myeloid cells, **CD44** antigen in mediation of)

IT 16561-29-8, TPA
RL: BIOL (Biological study)
(**hyaluronan** binding to myeloid cells enhancement by)

IT 141436-78-4, Protein kinase C
RL: BIOL (Biological study)
(**hyaluronan** binding to myeloid cells in relation to)

IT **9004-61-9, Hyaluronan**
RL: BIOL (Biological study)
(binding of, to myeloid cells, **CD44** antigen in mediation of)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 39 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1991:472102 HCAPLUS
DN 115:72102
TI Chemical modification of **hyaluronic acid** by carbodiimides
AU Kuo, Jing Wen; Swann, David A.; Prestwich, Glenn D.
CS Dep. Chem., State Univ. New York, Stony Brook, NY, 11794-3400, USA
SO Bioconjugate Chemistry (1991), 2(4), 232-41
CODEN: BCCHES; ISSN: 1043-1802
DT Journal
LA English
CC 33-8 (Carbohydrates)
AB **Hyaluronic acid** (HA) is a linear polysaccharide with repeating disaccharide units of **glucuronic** acid and N-**acetylglucosamine** and is found in the extracellular matrix of connective tissues. Reaction of high mol. wt. **sodium hyaluronate** (NaHA, MW .apprx.2 × 10^6) with carbodiimides gave the N-acylurea and O-acylisourea as NaHA-carbodiimide adducts. None of the expected intermol. coupling with the amine component was obsd. On the basis of this new observation, this method for chem. modification of HA was used in conjunction with new synthetic carbodiimides to prep. HA derivs. bearing lipophilic, arom., cross-linked, and tethered functional groups. The degree of conversion to NaHA-acylurea products appears to depend upon both the characteristics of various carbodiimides and the conformational structure of NaHA.
ST carbodiimide prepn coupling polysaccharide; **hyaluronic**

acid acylurea adduct; uronic hyal acid acylurea adduct; urea acyl adduct **hyaluronic acid**

IT Carbodiimides
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling reaction of, with **hyaluronic acid**)

IT Polysaccharides, reactions
RL: SPN (Synthetic preparation); PREP (Preparation)
hyaluronic acid derivs., prepn. of)

IT Coupling reaction
(of **hyaluronic acid** with carbodiimides)

IT 124-09-4, 1,6-Hexanediamine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(amidation of)

IT 542-85-8, Ethyl isothiocyanate
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with amines)

IT 106-50-3, **1,4**-Benzenediamine, reactions 2432-74-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, with Et isothiocyanate)

IT **9067-32-7, Sodium hyaluronate**
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, with carbodiimides)

IT 134736-14-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and amidation of)

IT 134736-08-6P 134736-09-7P 134736-11-1P 134736-12-2P 134736-16-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and coupling of, with **sodium hyaluronate**)

IT 62552-50-5P 70498-33-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and elimination reaction of, carbodiimide from)

IT 134736-17-7DP, **hyaluronic acid** deriv.
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)

IT 16349-59-0P 87257-24-7P 134736-06-4P 134736-07-5P 134736-15-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and oxidative elimination reaction of, carbodiimide from)

IT 66095-18-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with alkyl isothiocyanates)

IT 134736-04-2P 134736-05-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with **sodium hyaluronate**)

IT 134736-03-1DP, **hyaluronic acid** ester deriv.
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and rearrangement of)

IT 134736-13-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and redn. of)

IT 96874-50-9DP, **hyaluronic acid** deriv. 134736-03-1DP,
hyaluronic acid amide deriv. 134736-10-8DP,
hyaluronic acid deriv. 134736-18-8DP,
hyaluronic acid deriv. 134736-19-9DP,
hyaluronic acid deriv. 134736-20-2DP,

hyaluronic acid deriv. 164736-21-3DP,
hyaluronic acid deriv. 164736-22-4DP,
hyaluronic acid deriv.
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 111-86-4, 1-Octanamine 2869-34-3, 1-Tridecanamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Et isothiocyanate)
IT 27422-70-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with amine)
IT **9004-61-9, Hyaluronic acid**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbodiimides)
IT **9067-32-7, Sodium hyaluronate**
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, with carbodiimides)
RN 9067-32-7 HCAPLUS
CN Hyaluronic acid, sodium salt (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9004-61-9, Hyaluronic acid**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbodiimides)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 40 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1991:38450 HCAPLUS
DN 114:38450
TI The kinetics of hydroxyl-radical-induced strand breakage of **hyaluronic acid**. A pulse radiolysis study using conductometry and laser-light-scattering
AU Deeble, David J.; Bothe, Eberhard; Schuchmann, Heinz Peter; Parsons, Barry J.; Phillips, Glyn O.; Von Sonntag, Clemens
CS Max-Planck-Inst. Strahlenchem., Muehleim am der Ruhr, D-4330, Germany
SO Zeitschrift fuer Naturforschung, C: Journal of Biosciences (1990), 45(9-10), 1031-43
CODEN: ZNCBDA; ISSN: 0341-0382
DT Journal
LA English
CC 8-2 (Radiation Biochemistry)
AB OH radicals were generated radiolytically in N2O- and N2O/O2(4:1)-satd. aq. solns. of **hyaluronic acid**. The OH radicals react rapidly with **hyaluronic acid** mainly by abstracting C-bound H atoms. As a consequence of subsequent free-radical reactions, chain breakage occurs, the kinetics of which was followed by the pulse radiolysis technique. In the absence of O, strand breakage was followed by a change in cond. induced by the release of cationic counterions condensed at the surface of **hyaluronic acid**, which is a polyanion consisting of subunits of **glucuronic** acid alternating with N-**acetylglucosamine**. Strand breakage is not due to 1 single 1st-order process; however, the contributions of the different components cannot be adequately resolved. At pH 7, the overall half-life is **1.4** min; in both acid and basic solns., the rate of free-radical induced strand breakage is accelerated (at pH 4.8, t1/2 = 0.6 min; at pH 10, t1/2 = 0.18 min). In the absence of O, there is no effect of dose rate on the kinetics of strand breakage. In the presence of O in addn. to conductometric detection, strand breakage was also followed by changes in low-angle laser light-scattering. These 2 techniques are complementary in that in this system the conductometry

requires high doses per pulse whereas the light-scattering technique is best operated in the low-dose range. In the presence of [illegible] a pronounced dose-rate effect is obsd., e.g., at pH [illegible] after a dose of [illegible] Gy, the overall half-life is .apprx.[illegible] s, whereas after a dose of [illegible] Gy, the half-time is .apprx.[illegible] s. Both the yield and the rate of strand breakage increase with increasing pH, e.g., at pH [illegible] strand breaks = [illegible] .times. [illegible]-7 mol/J and at pH [illegible], [illegible] .times. [illegible]-7 mol/J. The radiolytic yields of CO_2, HCO_3^-, org. hydroperoxides, $O_2^{\cdot-}$ and O consumption have been detd. in .gamma.-irradiated N_2O/O 4:1 -satd. solns. of both **hyaluronic acid** and .beta.-cyclodextrin.

ST radiolysis **hyaluronate** hydroxyl

IT Hydroperoxides
RL: FORM (Formation, nonpreparative)
(formation of, from **hyaluronic acid** after radiolysis)

IT Kinetics of radiolysis
Radiolysis
(of **hyaluronic acid**, hydroxyl-induced strand breakage in)

IT Radiolysis
(pulsed, in hydroxyl-induced **hyaluronic acid** strand breakage study after radiolysis)

IT 11062-77-4, Superoxide radical anion 124-38-9P, Carbon dioxide, preparation 7722-84-1P, Hydrogen peroxide, preparation
RL: FORM (Formation, nonpreparative)
(formation of, from **hyaluronic acid** after radiolysis)

IT 3352-57-6, Hydroxyl, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(**hyaluronic acid** strand breakage induction by, after radiolysis, kinetic study of)

IT 7782-44-7, Oxygen, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydroxyl-induced **hyaluronic acid** strand breakage after radiolysis in relation to)

IT **9004-61-9, Hyaluronic acid**
RL: RCT (Reactant); RACT (Reactant or reagent)
(radiolysis of, hydroxyl-induced strand breakage kinetics after)

IT 7585-39-9, .beta.-Cyclodextrin
RL: RCT (Reactant); RACT (Reactant or reagent)
(radiolysis of, hydroxyl-induced strand breakage kinetics after, **hyaluronic acid** comparison with)

IT **9004-61-9, Hyaluronic acid**
RL: RCT (Reactant); RACT (Reactant or reagent)
(radiolysis of, hydroxyl-induced strand breakage kinetics after)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 41 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1989:601387 HCAPLUS
DN 111:201387
TI Skin treatment composition and hair-growth stimulant comprising **hyaluronic acid** fragments
IN Scott, Ian Richard
PA Unilever PLC, UK; Unilever N. V.
SO Eur. Pat. Appl., 25 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM A61K007-16
ICS A61K007-48

IC [4] C11D-4 Essential Oils and Cosmetics
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 295092	A2	19881214	EP 1988-305255	19880609
	EP 295092	A3	19900905		
	EP 295092	B1	19920923		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE				
	AU 8817459	A1	19881215	AU 1988-17459	19880607
	AU 613920	B2	19910815		
	CA 1318252	A1	19930525	CA 1988-568256	19880607
	IN 167137	A	19900901	IN 1988-BO166	19880609
	AT 86796	E	19921015	AT 1988-305255	19880609
	ES 2046306	T3	19940201	ES 1988-305255	19880609
	BR 8802663	A	19890103	BR 1988-2663	19880610
	JP 01013008	A2	19890117	JP 1988-143446	19880610
	JP 07008770	B4	19950201		
	ZA 8804172	A	19900228	ZA 1988-4172	19880610
PRAI	GB 1987-13747		19870612		
	EP 1988-305255		19880609		

OS MARPAT 111:201387

AB A compn. for topical administration to mammalian skin comprises **hyaluronic acid** fragments with 7-50 monosaccharide units, terminating either with a **glucuronic** acid unit and/or a N-acetyl **glucosamine** unit, or an unsatd. deriv. of one or both of these terminal units, and a cosmetically acceptable vehicle. When the fragments of **hyaluronic acid** consist of fragments with >25 monosaccharide units, then the compn. also comprises a means for enhancing the activity of the fragments in terms of angiogenic and/or growth response following topical application to the skin. Such agents are hair growth stimulants such as minoxidill, direct proteoglycanase inhibitors, glycosaminoglycanase inhibitors (e.g. an aldonolactone, a monosaccharide such as N-**acetylglucosamine**), glycosaminoglycan chain cellular uptake inhibitors, glycosidase inhibitors (e.g. a lactam, such as D-glucaro-1,5-lactam), and chem. activators of protein kinase C enzymes (e.g. diacylylglycerol). The compn. enhances the quality and appearance of human skin and promotes hair growth. **Hyaluronic acid** (7-50 monosaccharide fragments) was applied to the skin of rabbits for 5 days and effected an increase in the no. of blood vessels (capillaries) in the treated area. A compn. comprising hydroxyethyl cellulose 0.4, abs. EtOH 25, butane-1,3-diol 38.4, Me p-benzoate 0.2, **hyaluronic acid** fragments (26-50 monosaccharide units) 25, minoxidil 1, perfume 1, and H2O to 100% wt./wt. The compn. is useful for the treatment of balding scalp.

ST **hyaluronic acid** cosmetic hair growth stimulant

IT Cosmetics
(**hyaluronic acid** fragments-contg.)

IT Quaternary ammonium compounds, biological studies
RL: BIOL (Biological study)
(bis(hydrogenated tallow alkyl)dimethyl, chlorides, penetration enhancer, for skin cosmetics contg. **hyaluronic acid** fragments, Quaternium 18)

IT Polyelectrolytes
(cationic, penetration enhancer, for skin cosmetics contg. **hyaluronic acid** fragments)

IT Hair preparations
(growth stimulants, **hyaluronic acid** fragments-contg.)

IT 9026-43-1
RL: BIOL (Biological study)
(C, activators, skin cosmetics and hair growth enhancers contg. **hyaluronic acid** fragments and)

IT 9032-92-2, Glycosidase

RL: USES (Uses)
(inhibitors, skin cosmetics and hair growth enhancers contg. **hyaluronic acid** and)

IT 79955-99-0, Proteoglycanase 119300-99-4, Glycosaminoglycanase
RL: USES (Uses)
(inhibitors, skin cosmetics and hair growth enhancers contg. **hyaluronic acid** fragments and)

IT 56-73-5, Pyroglutamic acid, alkyl esters 107-21-1, 1,2-Ethanediol 109-43-3, Dibutylsebacate 617-73-2, 2-Hydroxyoctanoic acid 7447-03-1 68227-69-8, 1-Dodecylazacycloheptan-2-one 68610-92-4, Polyquart H 112481-71-5
RL: BIOL (Biological study)
(penetration enhancer, for skin cosmetics contg. **hyaluronic acid** fragments)

IT **9004-61-9D, Hyaluronic acid,** **glucuronic** acid- or N-acetyl **glucosamine**-terminated fragments
RL: BIOL (Biological study)
(skin cosmetic and hair growth enhancers contg.)

IT 389-36-6, D-Glucaro-**1,4**-lactone 3812-16-6, N-**Acetylglucosamine** 30403-47-5, 1,2-Dihexanoyl-sn-glycerol 31675-02-2, D-Glucaro-1,5-lactam 38304-91-5, Minoxidil
RL: BIOL (Biological study)
(skin cosmetics and hair growth enhancers contg. **hyaluronic acid** fragments and)

IT **9004-61-9D, Hyaluronic acid,** **glucuronic** acid- or N-acetyl **glucosamine**-terminated fragments
RL: BIOL (Biological study)
(skin cosmetic and hair growth enhancers contg.)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 42 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1988:56539 HCAPLUS
DN 108:56539
TI Preparation of oligosaccharides consisting of a uronic acid and a hexosamine as hair growth promoters
IN Couchman, John Robert; Gibson, Walter Thomas
PA Unilever PLC, UK; Unilever N. V.
SO Eur. Pat. Appl., 107 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C07H003-06
ICS C07H003-04; A61K007-06
CC 33-4 (Carbohydrates)
Section cross-reference(s): 62

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 211610	A2	19870225	EP 1986-305853	19860730
	EP 211610	A3	19880224		
	EP 211610	B1	19930915		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
	CA 1334656	A1	19950307	CA 1986-514018	19860724
	US 4761401	A	19880802	US 1986-891940	19860729
	AU 8660717	A1	19870205	AU 1986-60717	19860730
	AU 573866	B2	19880721		
	BR 8603606	A	19870310	BR 1986-3606	19860730
	IN 165624	A	19891125	IN 1986-BO214	19860730

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     EP 354595          A1   19900214       EP 1989-117874   19860731
     EP 354595          B1   19930224
         R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE
     AT 85864           E    19930315       AT 1989-117874   19860731
     AT 94554           E    19931015       AT 1986-305853   19860730
     JP 62036394        A2   19870217       JP 1986-181214   19860731
     ZA 8605732         A    19880427       ZA 1986-5732     19860731
     JP 03072412        A2   19910327       JP 1990-194687   19900723
     JP 07103009        B4   19951108
PRAI GB 1985-19416           19850801
     EP 1986-305853          19860730
     EP 1989-117874          19860730
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GI For diagram(s), see printed CA Issue.

AB Esterified oligosaccharides (I), consisting of uronic acids II [R1 = C3-10 alkyl, CH(CO2R2)(CH2)nMe; n = 0-7; R2 = H, C1-4 alkyl, CO(CH2)mMe, SO3M; m = 0-2; M = H, metal or org. cation] and hexosamines III [R3 = H, CO(CH2)mMe, SO3M], provided that R2 is the same or different and 1 R2 has a pyranose ring structure linked by .alpha.-1,3, .alpha.-**1**, **4**, .beta.-1,3, or .beta.-**1**,**4** glycosidic linkage, and disaccharides IV and V, were prepd. as a hair growth promoters, useful in baldness cures (no data). Chondrosin, obtained by acid hydrolysis of chondroitin sulfate in 2N H2SO4, was selectively N-acetylated, sulfated at the 6-position by Et3NSO3H, esterified with Me(CH2)5OH, and peracetylated to give V [R1 = Me(CH2)5, R2 = Ac].

ST oligosaccharide prepn hair growth promoter; baldness treatment oligosaccharide prepn; **glucosaminylglucuronic** acid prepn baldness treatment; **glucuronic** acid **glucosaminyl** prepn baldness treatment; uronic acid hexosamine oligosaccharide; chondrosin chondroitin sulfate hydrolysis

IT Oligosaccharides
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of hexosamine- and uronic acid-contg., from glycosaminoglycan hydrolyzate or by glycosidation)

IT Alopecia
 (treatment of, hexosamine- and uronic acid-contg. oligosaccharides for)

IT Hair preparations
 (growth stimulants, hexosamine- and uronic acid-contg. oligosaccharides as)

IT **9004-61-9, Hyaluronic acid** 9007-28-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (enzymic and chem. hydrolysis of)

IT 9050-30-0, Heparan sulphate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (enzymic hydrolysis of)

IT 112451-85-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (glycosidation of, with **acetylglucosamine** oxazoline deriv.)

IT 35954-65-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (glycosidation of, with **glucuronic** acid deriv.)

IT 499-14-9P, Chondrosine 71852-05-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and N-acetylation of)

IT 112451-87-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and acetylation of)

IT 112451-86-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and debenzylation of)

IT 112451-94-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and peracetylation of
IT [illegible]
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent
(prepn. and sulfation of
IT [illegible]
RL: SPN (Synthetic preparation); PREP (Preparation
(prepn. of, as hair growth promoter
IT 81480-42-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfation by, of chondrosin deriv.)
IT **9004-61-9, Hyaluronic acid**
RL: RCT (Reactant); RACT (Reactant or reagent)
(enzymic and chem. hydrolysis of)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 43 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1985:484358 HCAPLUS
DN 103:84358
TI Comparison of relationships between the chemical structures and mobilities of **hyaluronate** oligosaccharides in thin-layer and high-performance liquid chromatography
AU Shimada, Eiji; Matsumura, Go
CS Sch. Pharm. Sci., Showa Univ., Tokyo, 142, Japan
SO Journal of Chromatography (1985), 328, 75-80
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
CC 9-3 (Biochemical Methods)
AB The Rm {log[(1/RF)-1]} values of odd- and even-numbered **hyaluronate** oligosaccharides comprised of N-**acetylglucosamine** and **glucuronic** acid residues were detd. by TLC. Previous retention time data of the acidic oligosaccharides obtained by HPLC were converted into Rm values. By dividing the oligosaccharide structures into several fragments, the contributions of these fragments to chromatog. mobility (group consts.) were estd. essentially from the difference between the Rm values of 2 oligomers having appropriate structures. The group consts. of the bridging O atoms at the .beta.-**1,4**- and -1,3-glycosidic linkages of these oligomers were identical in HPLC but not in TLC. In the 2 types of chromatog., the mobility of a given **hyaluronate** oligosaccharide could be explained by a linear combination of group consts. and the Rm value of N-**acetylglucosamine** or **glucuronic** acid, with the exception that the Rm value of the uronic acid in TLC was anomalous.
ST **hyaluronate** oligosaccharide HPLC TLC; chromatog mobility
hyaluronate oligosaccharide structure
IT Chains, chemical
(chromatog. mobility of, of **hyaluronate** oligosaccharides, in TLC and HPLC)
IT Chromatography, thin-layer
(of **hyaluronate** oligosaccharides, HPLC comparison with)
IT Oligosaccharides

RL: ANST (Analytical study)
(of **hyaluronate**, chromatog. mobility of, in thin-layer and high-performance liq. chromatog.)

IT Chromatography, column and liquid
(high-performance, of **hyaluronate** oligosaccharides, TLC comparison with)

IT 6556-12-3 7512-17-6 13551-21-6 57282-61-4 57282-66-9 57282-67-4
57323-42-9 57323-43-0 72246-15-2 82505-58-4 85420-43-0
87142-74-3 87142-75-4 92755-54-7
RL: ANST (Analytical study)
(chromatog. mobility of, in thin-layer and high-performance liq. chromatog.)

IT **9004-61-9**
RL: ANST (Analytical study)
(oligosaccharides of, chromatog. mobility of, on HPLC and TLC)

IT **9004-61-9**
RL: ANST (Analytical study)
(oligosaccharides of, chromatog. mobility of, on HPLC and TLC)

RN 9004-61-9 HCAPLUS

CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L12 ANSWER 44 OF 48 HCAPLUS COPYRIGHT 2003 ACS

AN 1983:519787 HCAPLUS

DN 99:119787

TI Characteristic metabolism of succinate-**1**,**4**-14C: synthetic pathway of glycosaminoglycans in bovine periodontal ligament and pulp

AU Enomoto, Yasuyuki

CS Dep. Oral Biochem., Kanagawa Dent. Coll., Kanagawa, 238, Japan

SO Shika Kiso Igakkai Zasshi (1983), 25(1), 341-53
CODEN: SHKKAN; ISSN: 0385-0137

DT Journal

LA Japanese

CC 13-2 (Mammalian Biochemistry)

AB Slices of bovine periodontal ligament and pulp were suspended in Krebs-Ringer phosphate buffer and incubated with succinate-**1**, **4**-14C, following which, the glycosaminoglycans (GAGs) were subjected to electrophoresis and cation exchange chromatog. The fraction extd. with 0.16 and 1.0M NaCl showed that the soly. and relative proportion of proteoglycans and GAGs were distinct in the periodontal ligament and dental pulp. The highest level of radioactivity was detected in newly synthesized **hyaluronic acid**, using electrophoresis, with no detectable radioactivity found in the dermatan sulfate or chondroitin 4- and 6-sulfate. After hydrolysis of GAGs, followed by Aminex A-6 ion exchange chromatog., radioactivity from succinate-**1**,**4**-14C was mainly found in the hexuronate portion of the **hyaluronate**. However, traces of radioactivity were detected in the **glucosamine** and in addn., [3H] **glucosamine** was incorporated in the GAGs of the periodontal ligament and dental pulp when introduced into the incubation system. Therefore, succinate-**1**,**4**-14C added to the incubation medium was converted into intermediates of the tricarboxylic acid cycle and then through gluconeogenesis, via PEP, fructose 6-phosphate was synthesized with radioactive 14C. A reasonable hypothesis is that since glucose phosphate isomerase activity seems to be higher than that of hexose phosphate aminotransferase, it would appear that the [14C]UDP-**glucuronate** from the succinate-**1**,**4**-14C is incorporated in the newly synthesized **hyaluronic acid**.

ST tooth glycosaminoglycan formation; periodontal ligament glycosaminoglycan formation

IT Mucopolysaccharides, biological studies

RL: FORM (Formation, nonpreparative)
(glycosaminoglycans, formation of, by periodontal ligament and tooth pulp)

IT Uronic acids
RL: BIOL (Biological study)
(hexa-, glycosaminoglycan formation from, by periodontal ligament and tooth pulp)

IT Ligament
(periodontal, glycosaminoglycan formation from succinate by)

IT Mucopolysaccharides, biological studies
RL: FORM (Formation, nonpreparative)
(proteoglycans, formation of, by periodontal ligament and tooth pulp)

IT Tooth
(pulp, glycosaminoglycan formation from succinate by)

IT **9004-61-9** 24967-93-9 24967-94-0
RL: FORM (Formation, nonpreparative)
(formation of, by periodontal ligament and tooth pulp)

IT 110-15-6, biological studies 3416-24-8 7535-00-4
RL: BIOL (Biological study)
(glycosaminoglycan formation from, by periodontal ligament and tooth pulp)

IT **9004-61-9**
RL: FORM (Formation, nonpreparative)
(formation of, by periodontal ligament and tooth pulp)

RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 45 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1981:152383 HCAPLUS
DN 94:152383
TI Purification and properties of human N-acetylgalactosamine-6-sulfate sulfatase
AU Lim, Chang T.; Horwitz, Allen L.
CS Pritzker Sch. Med., Univ. Chicago, Chicago, IL, 60637, USA
SO Biochimica et Biophysica Acta (1981), 657(2), 344-55
CODEN: BBACAQ; ISSN: 0006-3002
DT Journal
LA English
CC 7-2 (Enzymes)
AB Human N-acetylgalactosamine-6-sulfate sulfatase from human placenta was purified >3000-fold by gel filtration, ion-exchange, and substrate affinity chromatog. The enzyme has a mol. wt. of 90,000 by gel filtration chromatog. and 85,000 by SDS-polyacrylamide gel electrophoresis. Enzyme purified from cultured human skin fibroblasts has similar properties. The 3H-labeled chondroitin 6-sulfate trisaccharide N-acetylgalactosamine 6-sulfate-(.beta.,**1-4**)-**glucuronic** acid-(.beta.,1-3)-N-acetyl[1-3H]galactosaminitol 6-sulfate as substrate demonstrated a Km of 0.12 mM at pH 4.5. Sulfate was hydrolyzed only from the nonreducing terminal of this disulfated trisaccharide. **Hyaluronic acid**, dermatan sulfate, chondroitin 4-sulfate, heparin, and chondroitin 6-sulfate tetrasaccharide were slightly inhibitory, whereas 6-sulfated pentasaccharides and heptasaccharides were strongly inhibitory. The enzyme does not hydrolyze sulfate from N-**acetylglucosamine** 6-sulfate.
ST acetylgalactosamine sulfatase placenta
IT Placenta
(acetylgalactosamine 6-sulfatase of)
IT Michaelis constant
of acetylgalactosamine 6-sulfatase
IT [illegible]
RL: PREP (Preparation)

of placenta, purifn. and properties of
IT [illegible]
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acetylgalactosamine 6-sulfatase of placenta, kinetics of)

L127 ANSWER 46 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1965:433060 HCAPLUS
DN 63:33060
OREF 63:6036b-e
TI The composition and physicochemical properties of **hyaluronic acids** prepared from ox synovial fluid and from a case of mesothelioma
AU Preston, B. N.; Davies, M.; Ogston, A. G.
CS Australian Natl. Univ., Canberra
SO Biochem. J. (1965), 96, 449-74
DT Journal
LA English
CC 56 (General Biochemistry)
AB The ox material contained 21% protein; the other prepns. contained less than 6% protein. The two materials were compared by sedimentation and viscosity and shown to be closely similar. The ox material structure may have some degree of branching and of cross-linking, which give it a rigidity with respect to expansion of the mol. domain that would not be possessed by a random coil. The deproteinized material recovered from DEAE-Sephadex, though polydisperse, showed unchanged av. mol. wt.; however, the av. radius of gyration was greater than before this treatment. Acidification to approx. pH 3 resulted in a contraction of the structure, with only a slight degree of expansion when the pH was restored to 6.8-7.0. Measurements of optical rotatory dispersion qualitatively support a structure less simple than a linear random coil. Sedimentation measurements of the ox prepn. were made up to a concn. of **1. 4** .times. 10-2 g./ml. The value of the sedimentation coeff. at higher concn. is the basis of an illustration of the likely effect of **hyaluronic acid** on the flow of water through narrow channels in connective tissue. A spectrophotometric titrn. with cetylpyridinium bromide gave estimates of carboxyl groups that agree well with those of decarboxylation when applied to prepns. of **hyaluronic acid** under suitable conditions; the results are not affected by the presence of protein. Sialic acid was estd. in several prepns. It is likely that this forms part of the protein. Analyses of preparations for total nitrogen, amino acids, total acetyl, **glucuronic** acid (by decarboxylation), and ash account for at least 95-7% of the dry weight in terms of N-**acetylglucosaminyl**, **glucuronyl**, protein, and metal ions. The estd. molar ratios of **glucuronic** acid to **glucosamine** were all significantly greater than unity. The analytical results are interpreted as agreeing with the physicochemical measurements in suggesting a more complex structure, for at least some **hyaluronic acids**, than that of an alternate linear copolymer in random-coil configuration.
IT Neoplasms
(**hyaluronic acid** of mesothelia)
IT **9004-61-9, Hyaluronic acid**
(of mesothelioma and synovial fluid)
IT **9004-61-9, Hyaluronic acid**
(of mesothelioma and synovial fluid)
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L127 ANSWER 47 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1955:32170 HCAPLUS

AN 49:36170
OREF 49:6134e-i,6135a-i,6136a
TI The structure of hyalobiuronic acid and of **hyaluronic acid** from umbilical cord
AU Weissmann, Bernard; Meyer, Karl
CS Columbia Univ.
SO J. Am. Chem. Soc. (1954), 76, 1753-7
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA Unavailable
CC 10 (Organic Chemistry)
AB Hyalobiuronic acid (I), a **glucuronidoglucosamine** earlier isolated from hydrolyzates of **hyaluronic acid** from umbilical cord (cf. C.A. 48, 1469c) has been converted to its heptaacetyl Me ester (II) and its N-Ac deriv. (III). The esterification of the disaccharide, the oxidation of the **glucosamine** residue to **glucosaminic** acid (IV), and the reduction to the uronic ester residue yielded a cryst. **glucosidoglucosaminic** acid (V). V was oxidatively deaminated to give a glucosidoarabinose (VI), isolated as its cryst. heptaacetate (VII), identical with the heptaacetate obtained by the Zempl.acte.en degradation of laminaribiose (VIII). I is thus 3-O-(.beta.-D-glucopyranosyluronic acid)-2-amino-2-deoxy-D-glucose. That III is the basic repeating unit of I linked linearly in the polymer by 3-O-(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl) linkages follows from earlier hydrolytic and enzymic expts. (cf. C.A. 35, 2188.6), and from periodate oxidation data in the literature. A modification of the hydroxamic acid test suitable for sugar esters is described. I (1.07 g.) stirred at room temp. 24 hrs. with 60 cc. abs. MeOH (0.075 M in HCl), the MeOH distd. in vacuo below 10.degree., the residual mush dehydrated by addns. of abs. EtOH and distn., and the colorless amorphous residue dried briefly at room temp. and 0.1 mm. gave 1.27 g. Me ester HCl salt (IX) of I; the material treated with chilling with pyridine and Ac2O (5 cc. each), the mixt. shaken 20 min. at 0.degree., the soln. allowed to stand 2 hrs. at room temp., the excess reagents removed at 70.degree./0.1 mm., and the residual glass recrystd. from abs. EtOH gave 1.40 g. (66%) II.EtOH colorless crystals, m. 120.degree. (stiff sirup), [.alpha.]D24 24.5.degree. (c 2, CHCl3); the EtOH of crystn. was not quite lost at 110.degree. in 1 hr.; II was very sol. in CHCl3, sol. in cold MeOH or hot EtOH, sparingly sol. in cold EtOH, and insol. in H2O or Et2O. The mother liquor dild. with Et2O deposited a no. of impure solid fractions of rotation as low as [.alpha.]D25 -1.degree.; the pure II was therefore probably the .alpha.-anomer. I (1.00 g.) in 5 cc. H2O treated dropwise with stirring with 2.85 milliequivs. M NaOH, the mixt. treated, when the soln. was almost complete, with stirring with ketene (pH 9 after 5 min., 4.5 after 0.5 hr.), and the mixt. filtered, passed through a small Dowex 50-H column, decolorized with C, dild. to 100 cc., lyophilized, redissolved, relyophilized, and dried in vacuo over NaOH and P2O5 gave 0.88 g. III, [.alpha.]D24 -32.degree. (c 2, H2O), pK 3.3. Prisms slowly deposited from H2O-MeOH-Me2CO in 1 run; these appeared to contain solvent of crystn. not lost at 60.degree.. III (0.42 g.) in 20 cc. dry MeOH 0.02M in HCl allowed to stand 2 days at 5.degree. showed 98% esterification and no loss in reducing power; the mixt. neutralized with a little pyridine, the solvent removed below room temp., and the amorphous residue acetylated in the same manner as described for IX gave II; the mother liquor contained materials of lower optical rotation. II (1.00 g.) boiled with 20 cc. 0.5M H2SO4, 90 cc. dil. AcOH distd. off during 3 hrs. while the vol. was maintained at 20-30 cc. by the addn. of H2O, the residual soln. cooled, cautiously brought to pH 5 with Ba(OH)2, filtered, and the filtrate concd. in vacuo gave 0.35 g. (66%) I, long prisms, [.alpha.]D27 -35.degree. (c 2, M HCl). I (300 mg.) converted to IX, the product dissolved in 10 cc. H2O, treated with 4.0 g. freshly ppta. yellow HgO, the suspension stirred 0.5 hr. at 99.degree., centrifuged hot, the supernatant soln. and hot H2O washings heated to boiling, treated with H2S, filtered,

concd. in vacuo, and the residual sirup crystd. from aq. EtOH gave 44 mg. Me ester (V) of 2-O-.beta.-D-glucopyranosylgluconic acid -2-amino-2-deoxy-D-gluconic acid (VI) contaminated with some VI. V 44 mg. in 2 cc. H2O treated during 8 min. with stirring with 61 mg. NaBH4 in 1 cc. 0.5M NaHCO3, the mixt. allowed to stand 1 hr., acidified with AcOH to pH 6.5, treated with 0.50 g. sorbitol, allowed to stand overnight, passed through a small Dowex 50-H column, and the column washed with 2 cc. H2O and developed with 0.002M AcOH gave in the 1st 10-40 cc. eluate material giving a pos. uronic acid test with carbazole, and from the subsequent 45 cc. eluate, upon evapn. and recrystn. from aq. EtOH, 46 mg. VII, [.alpha.]D29 -32.degree. (c 0.9, H2O), charred without melting, slightly sol. in cold, sol. in hot H2O, and insol. in MeOH and EtOH; an air-dried sample showed [.alpha.]D30 -34.degree. (c 0.9, H2O). The 15-35 cc. eluate concd. and the residue recrystd. from aq. EtOH gave 31 mg. VI.H2O, colorless needles, almost insol. in cold, sparingly sol. in hot H2O, insol. in MeOH and EtOH, readily sol. in aq. NaHCO3, retained 1 mole H2O when dried at 110.degree.. V (41 mg.) and 27 mg. ninhydrin in 2 cc. H2O heated 0.5 hr. at 99.degree., cooled, filtered, the filtrate and H2O washings passed through a small Dowex 50-H column, extd. several times with large vols. of CHCl3 and BuOH, the aq. layer lyophilized, the amorphous residue of VI heated 1 hr. on the steam bath with 70 mg. NaOAc and 1 cc. Ac2O, cooled, treated with H2O, refrigerated overnight, neutralized with NaHCO3, extd. with CHCl3, and the ext. concd. gave an amber glass which, recrystd. from abs. EtOH, gave 14 mg. 2-O-.beta.-D-glucopyranosyl-D-arabinose heptaacetate (VII), m. 198-9.degree., [.alpha.]D23 -47.degree. (c 0.7, CHCl3). **Glucosaminic** acid (as a model) (0.1M) heated with **1**. **4** mole equivs. ninhydrin 0.5-1 hr. at 99.degree. showed 93% conversion to arabinose (isolated in 40% yield, or in 66% yield as the diphenylhydrazone). VIII [prepd. by the method of Bashli and Percival (C.A. 47, 1064d)], m. 202-5.degree. with yellowing from 180.degree. (slow heating), m. 212-14.degree. (decompn.) (heated 6.degree./min. in bath at 188.degree.) (1.71 g.) in 7 cc. H2O heated on the steam bath, treated rapidly with 12 cc. NH2OH in 1:1 abs. MeOH-EtOH (from NaOMe and excess NH2OH.HCl), the mixt. refluxed 1 hr., filtered, concd. in vacuo to dryness, the residue dried by repeated distn. with abs. EtOH, the residual sirupy oxime heated 40 min. with shaking with 15 cc. Ac2O and 3 g. NaOAc at 110.degree., the brown mixt. chilled, shaken with 50 g. ice and H2O, the soln. refrigerated, and the solid deposit recrystd. from EtOH with Norit gave 1.59 g. octaacetylaminoarabinonitrile, fine needles, m. 140-1.degree., [.alpha.]D30 3.degree. (c 2, CHCl3), sol. in hot EtOH or cold CHCl3, sparingly sol. in cold EtOH, and almost insol. in Et2O. XII (1.47 g.) in 5 cc. CHCl3 treated rapidly with cooling with 6 cc. M NaOMe in MeOH, the mixt. shaken intermittently 0.5 hr., treated with 10 cc. H2O in the cold, the aq. layer acidified with AcOH, treated with AgOAc, then with NaCl, filtered, decolorized with C, lyophilized, the residual glass treated with 10 cc. Ac2O and 2 g. NaOAc, the mixt. heated 0.5 hr. at 99.degree., boiled 2 min., cooled, treated with 35 g. ice and H2O the soln. chilled 2 hrs., and the cryst. deposit washed with dil. AcOH gave 0.26 g. VII, m. 199-200.degree. (microblock 200.5-201.degree. (capillary)), [.alpha.]D30 -46.degree. (c 2, CHCl3); the neutralized mother liquor extd. with CHCl3 gave a sirup yielding only small addnl. amts. of VII. In the modified hydroxamic acid test, 0.20 cc. soln. contg. 1.3-3 microequivs. ester was mixed with 0.4 cc. reagent freshly prepd. from equal vols. of 2.5M NH2OH.HCl and 1.0M glycine in 3.5M NaOH, the mixt. allowed to stand 2-3 hrs. at room temp., treated with 2.5 cc. 1.00-M HCl and 6.0 cc. 0.1M FeCl3 in 0.01M HCl, and the optical d. at 540 m.mu. measured at once.

L127 ANSWER 48 OF 48 HCAPLUS COPYRIGHT 2003 ACS
AN 1952:24681 HCAPLUS
DN 46:24681
OREF 46:4182f-i
TI High-viscosity **hyaluronic acid**

IN Hadidian, Zareh; Pirie, Norman W.
PA G. D. Searle & Co.
DT Patent
LA Unavailable
CC 17 (Pharmaceuticals, Cosmetics, and Perfumes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2683096		19520122	US	

PI US 2683096

AB **Hyaluronic acid** (I) is a mucopolysaccharide constituting part of the connective tissue of cells of animals and humans and composed for the most part of **glucuronic** acid and **acetylglucosamine.** Previous prepns. have been of low-to-medium relative viscosity, 1.**1-4**.3 at 1 g./l. concn. The relative viscosity is the ratio of flow time of I in a 0.85 N NaCl, 0.15 M phosphate, pH 7 soln., to that of the salt soln. alone at 25.degree.. Carefully washed human umbilical cords, preserved for 6 weeks in Me2CO, cut into 1 cm. lengths, and extd. with Me2CO, were extd. 6 times with 4 times the cords' wet wt. of water, the first 2 exts. were discarded, the pH was adjusted to 6, and the mucin clot was collected. The residue was passed through a power-driven meat grinder with 1/8-in. holes in the plate, suspended in 3 vols. of 0.1 N NaCl, poured into cloth, the fluid was pressed out by hand, acidified with 20 ml. of 6 N HCl/l., and the resulting stringy ppt. was added to the mucin clot fraction. Then 300 g. (NH4)2SO4 was added per l. of clear acid fluid, the scum of residual protein and I was removed, C5H5N 50 ml./l. was added, the interfacial matter was compacted by centrifuging and removed, 250 g. (NH4)2SO4 was added per l. of clear fluid, and the mixt. was centrifuged to give the product as a compact coherent sheet at the interface, easily removed. Purified I, thus isolated, had 8.2 relative viscosity at 1 g./l. concn. I could also be sepd. from the clear aq. acid fluid by means of EtOH and (NH4)2SO4 or recovered from protein mixts. by digestion with proteolytic enzymes. Cf. following abstr.

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FILE LAST UPDATED: 29 JAN 2003 <20030129/UP>
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>>> d all abeq tech abem 1129

L1129 ANSWER 1 OF 1 WPIX (C) 2003 THOMSON DERWENT
AN 2000-524479 [47] WPIX
DNC C2000-158803
TI Composition for inducing differentiation of leukemic or hematopoietic stem cells, useful for treating e.g. leukemia or aplasia, contains a polymer comprising specific disaccharide units.
DC A96 B04 D16
IN CHARRAD, R S; CHOMIENNE, C; DELPECH, B; JASMIN, C; SMADJA, J F; CHARRAD, R; SMADJA-JOFFE, F
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE
CYC 91
PI WO 2000047163 A2 20000817 (200047)* FR 56p A61K000-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
FR 2789587 A1 20000818 (200048) A61K031-728
AU 2000026762 A 20000829 (200062) A61K000-00
EP 1150692 A2 20011107 (200168) FR A61K031-715
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2000047163 A2 **WO 2000-FR349 20000211**; FR 2789587 A1 FR 1999-1644 19990211; AU 2000026762 A AU 2000-26762 20000211; EP 1150692 A2 EP 2000-905120 20000211, **WO 2000-FR349 20000211**
FDT AU 2000026762 A Based on WO 200047163; EP 1150692 A2 Based on WO 200047163
PRAI FR 1999-1644 19990211
IC ICM A61K000-00; A61K031-715; A61K031-728
ICS A61K039-395; A61P035-02
AB WO 200047163 A UPAB: 20000925
NOVELTY - Preparing a composition for stimulating differentiation of leukemic cells or CD14-CD15 stem cells, using a polymer (I), containing disaccharide units (DSU), each DSU comprising an N-acetyl-D-glucosamine linked thorough a beta -1,4-O-glucosidic bond to a molecule with a glucuronic acid structure.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a pharmaceutical composition for inducing or stimulating differentiation of leukemic and/or CD14-CD15 stem cells, particularly blasts of acute myeloblastic leukemia (AML), that contain the specified DSU.

ACTIVITY - Antileukemic. No biological data is given.

MECHANISM OF ACTION - CD44 receptor activator. No biological data is given.

USE - (I) is used to treat leukemia by inhibiting, in vivo, proliferation of leukemic cells and to regulate differentiation of very immature, but normal, hematopoietic cells, e.g. for treating aplasia or neutropenia.

Hematopoietic, especially leukemic, cells, and particularly AML (acute myeloblastic leukemia) blasts are stimulated or differentiated and stem cells are converted to mature cells of granulocytic and monocytic lineages. (I) binds directly to cells and acts as a transducing receptor for a pro-differentiation and/or anti-proliferative signal; particularly it activates the CD44 receptor.

ADVANTAGE - (I) is effective against all types of acute myeloblastic leukemia (AML) blasts, including types for which no differentiation-

inducing treatment is available. (I) is not toxic at doses of several milligrams.

Dwg.0/0

FS CPI
FA AB; DCN
MC CPI: A03-A00A; A12-V01; B04-C02E; B04-C10F; B11-C08E; B12-K04; B14-K11A; D08-H03; D09-H09

TECH UPTN: 200308925
TECHNOLOGY FOCUS - BIOLOGY - Preferred Material: (I) contains at least 3, preferably 3 - 10 or 10 - 100, DSU and is particularly hyaluronic acid or its fragments.
Preferred cells: The target cells are of any of the AML types 1-7.

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: (I) may be formulated with an adjuvant that promotes binding of (I) to its cellular target, preferably an anti-CD44 antibody or its fragment or (II) a compound that prevents binding of (I) to an inappropriate cell target, particularly a monoclonal antibody directed against ICAM-1 (intracellular adhesion molecule-1).

ABEX
WIDER DISCLOSURE - Also disclosed are:
(1) a method for predicting the effect of treatment with (I) and for adjusting the dose, where pathological cells from the subject are incubated, in vitro, with (I) and a therapeutic effect is predicted if a significant increase in cell differentiation, relative to a negative control, is observed. A similar test may be performed in an animal model; and
(2) use of a mimetic or agonist of (I) rather than (I) itself.
ADMINISTRATION - Unit doses of (I) are 1 - 10, preferably 3 milligrams/kilogram. Administration is via intravenous injection (preferred), tablets and patches.

EXAMPLE - Leukemic blasts, of various acute myeloblastic leukemia (AML) types, were isolated from blood or bone marrow and 0.2 million of them incubated for 6 days at 37 degrees Centigrade with 20 micrograms/milliliter of human hyaluronic acid. Cells were then examined for differentiation from:
(i) the ability to reduce nitro-blue tetrazolium,
(ii) expression of CD14 and CD15, and
(iii) cytosolic staining.
Of 35 samples tested, 26 showed induction of differentiation, specifically 5 of 7 for AML type 1/2; 12 of 16 for AML type 3; 3 of 4 for AML type 4 and 6 of 8 for AML type 5.

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PATENTS CITATION INDEX, COVERS 1973 TO DATE

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L18 ANSWER 1 OF 1 DPCI (C) 2003 THOMSON DERWENT
AN 2000-524479 [47] DPCI
DNC C2000-155803
TI Composition for inducing differentiation of leukemic or hematopoietic stem cells, useful for treating e.g. leukemia or aplasia, contains a polymer comprising specific disaccharide units.

DC A96 B04 D16
IN CHARRAD, R S; CHOMIENNE, C; DELBECH, B; JASMIN, C; SMADJA, J F; CHARRAD, R; SMADJA-JOFFE, F
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE
CYC 91
PI WO 2000047163 A2 20000817 (200047)* FR 86p A61K[illegible]
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
FR 2789587 A1 20000818 (200048) A61K031-728
AU 2000026762 A 20000829 (200062) A61K000-00
EP 1150692 A2 20011107 (200168) FR A61K031-715
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2000047163 A2 **WO 2000-FR349 20000211**; FR 2789587 A1 FR 1999-1644 19990211; AU 2000026762 A AU 2000-26762 20000211; EP 1150692 A2 EP 2000-905120 20000211, **WO 2000-FR349 20000211**
FDT AU 2000026762 A Based on WO 200047163; EP 1150692 A2 Based on WO 2000047163
PRAI FR 1999-1644 19990211
IC ICM A61K000-00; A61K031-715; A61K031-728
ICS A61K039-395; A61P035-02
FS CPI

DTCS CITATION COUNTERS

PNC.DI	0	Cited Patents Count (by inventor)
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IAC.DI	0	Cited Issuing Authority Count (by inventor)
IAC.DX	2	Cited Issuing Authority Count (by examiner)
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IAC.GX	0	Citing Issuing Authority Count (by examiner)
CRC.I	0	Cited Literature References Count (by inventor)
CRC.X	9	Cited Literature References Count (by examiner)

CDP CITED PATENTS UPD: 20020808

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	IN:	SIMON, J; TERMEER, C	
	X	EP 240098 A	1987-279443/40
	PA:	(UENS) UENO SEIYAKU OYO KENKYUSHO KK	
	IN:	KUNO, S; TABATA, A; UENO, R	
	A	EP 795560 A	1997-[illegible]
	PA:	(SEGK) SEIKAGAKU CORP	
	IN:	ASARI, A; MARUYAMA, H; MIYAUCHI, J; MORIKAWA, K; TAWADA, A; YOSHIDA, K	

REN LITERATURE CITATIONS UPR: 20020808

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WO 200047163	A	MORIMOTO K S ET AL: "CD44 mediates hyaluronan binding by human myeloid KG1A and KG1 cells." PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH ANNUAL MEETING, 1994, vol. 35, mars 1994 (1994-03), page 20 XP000857229
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WO 200047163	A	GHAFFARI S ET AL: "Altered patterns of CD44 epitope expression in human chronic and acute myeloid leukemia." LEUKAEMIA, vol. 10, no. 11, 1996, pages 1773-1781, XP000856618 ENGLAND
WO 200047163	A	LEGRAS, S. ET AL: "CD44-mediated adhesiveness of human hematopoietic progenitors to hyaluronan is modulated by cytokines" BLOOD, vol. 89, 1997, pages 1905-1914, XP000946153
WO 200047163	A	CHARRAD RS ET AL: "Ligation of the CD44 adhesion molecule reverses blockage of differentiation in human acute myeloid leukemia" NATURE MEDICINE, vol. 5, no. 6, [illegible] 1999 (1999-06), pages 669-676, XP000857226 UNITED STATES

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MOST RECENT DERWENT UPDATE: 200307 <200307/DW>
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L134 ANSWER 1 OF 3 WPIX (C) 2003 THOMSON DERWENT
AN 1998-596253 [51] WPIX
DNC C1998-179068
TI Process for concentration of dendritic cells - comprises obtaining mononuclear cells from blood, isolating CD14 cells, cultivating CD14 cells, and the resulting cells with hyaluronic acid fragments.
DC B04 D16
IN SIMON, J; TERMEER, C
PA (UYFR-N) UNIV FREIBURG KLINIKUM ALBERT-LUDWIGS
CYC 1
PI DE 19802540 C1 19981119 (199851)* 8p C12N005-08 <--
ADT DE 19802540 C1 DE 1998-19802540 19980123
PRAI DE 1998-19802540 19980123
IC ICM C12N005-08
AB DE 19802540 C UPAB: 19981223
A process for the concentration of dendritic cells comprises: (a) isolating mononuclear cells from blood; (b) concentrating cells with a CD14 cell surface marker; (c) cultivating the CD14 cells in a medium comprising the cytokines GM-CSG and interleukin-4 (Il-4), and (d) cultivating the resulting cells with hyaluronic acid fragments to obtain irreversibly differentiated dendritic cells. Also claimed is the use of low molecular hyaluronic acid fragments for the concentration of dendritic cells.
ADVANTAGE - The process is faster and cheaper than prior art methods of cultivating dendritic cells.
Dwg.0/0
FS CPI
FA AB
MC CPI: B04-C02E; B04-F04; D05-H15

L134 ANSWER 2 OF 3 WPIX (C) 2003 THOMSON DERWENT
AN 1996-277710 [28] WPIX
DNC C1996-088156
TI New and known keratan sulphate oligosaccharide cpds. - are antiinflammatory, antiallergic, cell differentiation inducing immuno-regulatory and apoptosis inducing agents.
DC B04
IN ASARI, A; MARUYAMA, H; MIYAUCHI, S; MORIKAWA, K; TAWADA, A; YOSHIDA, K
PA (SEGK) SEIKAGAKU CORP

CYC 25
PI WO 9616973 A1 19960606 (199628)* EN 74p C07H011-00
DN: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA CN HU JP KR RU US
AU 9539356 A 19960619 (199641) C07H011-00
EP 795560 A1 19970917 (199742) EN 47p C07H011-00 <---
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 08518573 X 19971222 (199810) C07H011-00
HU 77134 T 19980302 (199821) C07H011-00
KR 98700320 A 19980330 (199901) C07H011-00
AU 704429 B 19990422 (199927) C07H011-00
US 5939403 A 19990817 (199939) A61K031-73
US 6159954 A 20001212 (200067) A61K031-70
RU 2173154 C2 20010910 (200168) A61K031-7024
CN 1174557 A 19980225 (200171) C07H011-00
ADT WO 9616973 A1 WO 1995-JP2386 19951122; AU 9539356 A AU 1995-39356 19951122; EP 795560 A1 EP 1995-937170 19951122, WO 1995-JP2386 19951122; JP 08518573 X WO 1995-JP2386 19951122, JP 1996-518573 19951122; HU 77134 T WO 1995-JP2386 19951122, HU 1997-1820 19951122; KR 98700320 A WO 1995-JP2386 19951122, KR 1997-703698 19970602; AU 704429 B AU 1995-39356 19951122; US 5939403 A WO 1995-JP2386 19951122, US 1997-849925 19970602; US 6159954 A Div ex WO 1995-JP2386 19951122, Div ex US 1997-849925 19970602, US 1999-317380 19990524; RU 2173154 C2 WO 1995-JP2386 19951122, RU 1997-111163 19951122; CN 1174557 A CN 1995-197492 19951122
FDT AU 9539356 A Based on WO 9616973; EP 795560 A1 Based on WO 9616973; JP 08518573 X Based on WO 9616973; HU 77134 T Based on WO 9616973; KR 98700320 A Based on WO 9616973; AU 704429 B Previous Publ. AU 9539356, Based on WO 9616973; US 5939403 A Based on WO 9616973; RU 2173154 C2 Based on WO 9616973
PRAI JP 1994-298298 19941201
REP AU 9472058; EP 656215; JP 7278203; WO 9428889
IC ICM A61K031-70; A61K031-7024; A61K031-73; C07H011-00
ICS A61K031-725; A61K035-32; A61K035-60; A61P029-00; A61P037-02; A61P037-08; A61P043-00; C08B003-04; C08B003-06
AB WO 9616973 A UPAB: 20010110
Antiinflammatory or antiallergic agent, immunoregulator, cell differentiation inducer or apoptosis inducer comprise a keratan sulphate oligosaccharide (I) or its salt. Also claimed are (I)-fractions: (i) comprising at least 99% of an oligosaccharide which has a sulphated N-acetylglucosamine at the reducing end with at least 2 sulphated hydroxy gps. per molecule; and (ii) not contg. endotoxin, nucleic acids, proteins, protease, hyaluronic acid, chondroitin sulphate, dermatan sulphate, heparan sulphate or keratan sulphate. Prepn. of (I)-fractions as in (ii) above is also claimed (see 'Preparation').
USE - (I) are antiinflammatory and antiallergic agents, cell differentiation and apoptosis inducers and immunoregulators useful for the treatment and prophylaxis of e.g. rheumatoid arthritis, tendonitis human autoimmune lymphoproliferative syndrome, leukaemia, multiple sclerosis, good-pastures disease, insulin and juvenile diabetes, thyroid toxicoccus, Crohn's disease, Addison's disease Sjorgen's disease, cancer, leukaemia, metastasis, scleroderma, glomerulonephrosis or chronic hepatitis. Dosage is 3-300 mg/day as antiinflammatory or antiallergic agents or 30-6000 mg/day for other uses.
Dwg.0/19
FS CPI
FA AB; DCN
MC CPI: B04-C02X; B14-C03; B14-C09B; B14-H01; B14-N10; B14-N11; B14-S01; B14-S04

L134 ANSWER 3 OF 3 WPIX (C) 2003 THOMSON DERWENT
AN 1987-273443 [40] WPIX
DNC C1987-114652
TI Treatment of diseases caused by retro-viruses - using an oligo-or

polysaccharide having S-oxo acid gps. attached to the saccharic carbon via a linking gp..

DC A96 B04
IN KUNO, S; TABATA, A; UENO, R
PA (UENS) UENO SEIYAKU OYO KENKYUSHO KK
CYC 21
PI EP 240098 A 19871007 (198740)* EN 33p
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
AU 8771074 A 19871008 (198747)
JP 63045223 A 19880226 (198814)
ZA 8702359 A 19880224 (198821)
JP 01151521 A 19890614 (198930)
US 4840941 A 19890620 (198931) 24p
JP 02078877 B 19900219 (199011)
CA 1277239 C 19901204 (199103)
PH 25964 A 19920113 (199511) A61K003-70
ADT EP 240098 A EP 1987-300282 19870114; JP 63045223 A JP 1987-15574 19870126; ZA 8702359 A ZA 1987-2359 19870401; JP 01151521 A JP 1988-233363 19880325; US 4840941 A US 1988-144131 19880115; PH 25964 A PH 1987-35103 19870403
PRAI JP 1986-78470 19860404; JP 1986-78471 19860404; JP 1986-93019 19860421; JP 1987-15574 19870126; JP 1988-233363 19880325
REP 8.Jnl.Ref; A3...8919; EP 232744; No-SR.Pub
IC A61K031-70; C04B037-02; C07H011-00
ICM A61K003-70
ICS A61K031-70; C04B037-02; C07H011-00

AB EP 240098 A UPAB: 19930922
A natural or synthetic oligo- or polysaccharide (I) having at least one S-oxoacid gp attached to the saccharic C atom through a linking gp of lower mol wt or a salt of (I) is used for the mfr of a medicament for treatment of disease caused by retroviruses.

Pref the S-oxoacid gp is SO3H and the linking gp. is -O- or -NH-. Pref. (I) is a natural polysaccharide having at least one O-SO3-H gp obtd from a plant or microorganism or a synthetic polysaccharide having at least one OSO3H gp formed by esterifying a polysaccharide. Suitable (I) include, e.g. chondroitin sulphate, dermatan sulphate, heparitin sulphate, hyaluronic acid, chitin, chitosan, chondroitin polysulphate, keratin polysulphate, hyaluronic acid sulphate, chitin sulphate and chitosan sulphate. USE - (I) can be used for the prevention or therapy of e.g. PGL, ARX, AIDS, ATL, Kawasaki disease, avian myelobiastosis virus or Friend murine leukemia virus. (I) inhibits the reverse transcriptase of the retrovirus in vitro and thereby suppresses the replication of the virus. Previously (I) have had other uses, e.g. dextran sulphate of low mol wt has been used as an antilipemic or anti-arteriosclerosis agent and extran sulphate of higher mol wt. is known to have an inhibitory action against herpes virus, chondroitin sulphate has been used for sensorineural hearing impairment, neuralgia, lumbago and chronic nephritis and also as a cornea-protective ophthalmic soln. The toxicity of (I) is extremely low e.g. LD50 of sodium chondroitin sulphate is 4000 mg/kg or more i.p in mice.
0/48

FS CPI
FA AB
MC CPI: A03-A00A; A12-V01; B04-C02D; B04-C02E; B04-C02F; B12-A01; B12-A06; B12-D01; B12-G03; B12-G05; B12-H03; B12-L04

ABEQ US 4840941 A UPAB: 19930922
Process for inhibiting the infection of human T-cells by a human retrovirus comprises administration of dextran sulphate (S content 13-20 wt.%; Mr 500-2,000,000 pref. 7,000-8,000).

USE - Dextran sulphate provides a means of prophylaxis and treatment of retrovirus infection arising from immunodeficiency virus (AIDS), T-cell lymphotropic virus-I, -II or -III, lymphoadenopathy associated virus, AIDS-related virus and Kawasaki disease retrovirus, etc.

=> fil medline
FILE 'MEDLINE' ENTERED AT 10:19:36 ON 31 JAN 2003

FILE LAST UPDATED: 30 JAN 2003 (20030130/UP). FILE COVERS 1950 TO DATE.

On June 3, 2002, MEDLINE was reloaded. See HELP RLOAD for details.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2003 vocabulary. See http://www.nlm.nih.gov/mesh/summ2003.html for a description on changes.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all tot

L146 ANSWER 1 OF 7 MEDLINE
AN 1999297916 MEDLINE
DN 99297916 PubMed ID: 10371506
TI Ligation of the CD44 adhesion molecule reverses blockage of differentiation in human acute myeloid leukemia.
CM Comment in: Nat Med. 1999 Jun;5(6):619-20
AU **Charrad R S**; Li Y; Delpech B; Balitrand N; Clay D; Jasmin C; Chomienne C; Smadja-Joffe F
CS Inserm U268, Laboratoire de differenciation hematopoietique normale et leucemique, Hopital Paul-Brousse, Villejuif, France.
SO **NATURE MEDICINE**, (1999 Jun) 5 (6) **669-76**.
Journal code: 9502015. ISSN: 1078-8956.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199907
ED Entered STN: 19990714
Last Updated on STN: 19990714
Entered Medline: 19990701
AB Blockage in myeloid differentiation characterizes acute myeloid leukemia (AML); the stage of the blockage defines distinct AML subtypes (AML1/2 to AML5). Differentiation therapy in AML has recently raised interest because the survival of AML3 patients has been greatly improved using the differentiating agent retinoic acid. However, this molecule is ineffective in other AML subtypes. The CD44 surface antigen, on leukemic blasts from most AML patients, is involved in myeloid differentiation. Here, we report that ligation of CD44 with specific anti-CD44 monoclonal antibodies or with hyaluronan, its natural ligand, can reverse myeloid differentiation blockage in AML1/2 to AML5 subtypes. The differentiation of AML blasts was evidenced by the ability to produce oxidative bursts, the expression of lineage antigens and cytological modifications, all specific to normal differentiated myeloid cells. These results indicate new possibilities for the development of CD44-targeted differentiation therapy in the AML1/2 to AML5 subtypes.
CT Check Tags: Human; Support, Non-U.S. Gov't
Acute Disease
Antibodies, Monoclonal: ME, metabolism
Antibodies, Monoclonal: PD, pharmacology
Antigens, CD14: ME, metabolism
Antigens, CD15: ME, metabolism
Antigens, CD44: DE, drug effects
Antigens, CD44: IM, immunology
Antigens, CD44: ME, metabolism
Bone Marrow: ME, metabolism
Bone Marrow: PA, pathology

*Cell Differentiation: DE, drug effects
Dose-Response Relationship, Drug
Granulocyte Colony-Stimulating Factor: DE, drug effects
Granulocyte Colony-Stimulating Factor: GE, genetics
Granulocytes: DE, drug effects
Granulocytes: ME, metabolism
Granulocytes: PA, pathology
Hyaluronic Acid: CH, chemistry
Hyaluronic Acid: ME, metabolism
Hyaluronic Acid: PD, pharmacology
Leukemia, Myeloid: DT, drug therapy
*Leukemia, Myeloid: ME, metabolism
*Leukemia, Myeloid: PA, pathology
Macrophage Colony-Stimulating Factor: DE, drug effects
Macrophage Colony-Stimulating Factor: GE, genetics
Monocytes: DE, drug effects
Monocytes: ME, metabolism
Monocytes: PA, pathology
Neoplasm Proteins: DE, drug effects
Neoplasm Proteins: ME, metabolism
Oncogene Proteins, Fusion: DE, drug effects
Oncogene Proteins, Fusion: ME, metabolism
RNA, Messenger: AN, analysis
Respiratory Burst
Tretinoin: PD, pharmacology
Tumor Cells, Cultured: DE, drug effects
Tumor Cells, Cultured: IM, immunology
Tumor Cells, Cultured: ME, metabolism

RN 143011-72-7 (Granulocyte Colony-Stimulating Factor); 302-79-4 (Tretinoin); 81627-83-0 (Macrophage Colony-Stimulating Factor); 9004-61-9 (Hyaluronic Acid)

CN 0 (Antibodies, Monoclonal); 0 (Antigens, CD14); 0 (Antigens, CD15); 0 (Antigens, CD44); 0 (Neoplasm Proteins); 0 (Oncogene Proteins, Fusion); 0 (PML-RARalpha protein); 0 (RNA, Messenger)

L146 ANSWER 2 OF 7 MEDLINE

AN 97211743 MEDLINE

DN 97211743 PubMed ID: 9058710

TI CD44-mediated adhesiveness of human hematopoietic progenitors to hyaluronan is modulated by cytokines.

AU **Legras S**; Levesque J P; Charrad R; Morimoto K; Le Bousse C; Clay D; Jasmin C; Smadja-Joffe F

CS Institut National de la Sante et de la Recherche Medicale U268, Hopital Paul Brousse, Villejuif, France.

SO **BLOOD, (1997 Mar 15) 89** (6) **1905-14**

. Journal code: 7603509. ISSN: 0006-4971.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199704

ED Entered STN: 19970414
Last Updated on STN: 20021218
Entered Medline: 19970402

AB Adhesive interactions between CD34+ hematopoietic progenitor cells (HPC) and bone marrow stroma are crucial for normal hematopoiesis, yet their molecular bases are still poorly elucidated. We have investigated whether cell surface proteoglycan CD44 can mediate adhesion of human CD34+ HPC to immobilized hyaluronan (HA), an abundant glycosaminoglycan of the bone marrow extracellular matrix. Our data show that, although CD34+ cells strongly express CD44, only 13.3 +/- 1.1 spontaneously adheres to HA. Short-term methylcellulose assay showed that HA-adherent CD34+ cells

comprised granulo-monocytic and erythroid committed progenitors (?.? +/- ?.? and ?.? +/- ?.?% of the input, respectively). Mixed primitive progenitors, such as pre-colony-forming units, also adhered to HA. Moreover, we found that CD44-mediated adhesion of CD34+ cells to HA could be enhanced by phorbol 12-myristate 13-acetate (PMA), the tumor-activating anti-CD44 monoclonal antibody H90, and cytokines such as granulocyte-monocyte colony-stimulating factor, interleukin-3 (IL-3), and stem cell factor. Enhancement through PMA required several hours, was protein-synthesis-dependent, and was associated with an increase of CD44 cell surface expression, whereas stimulation of adhesion by H90 monoclonal antibody and cytokines was very rapid and without alteration of CD44 expression. H90-induced activation occurred at 4 degrees C and lasted for at least 2 hours, whereas activation by cytokines required incubation at 37 degrees C and was transient. These data, which show for the first time that CD34+ HPC can directly adhere to HA via CD44, point out that this adhesive interaction to HA is a process that may also be physiologically regulated by cytokines.

CT Check Tags: Human; Support, Non-U.S. Gov't
ADP-ribosyl Cyclase
Antibodies, Monoclonal: PD, pharmacology
Antigens, CD34: AN, analysis
Antigens, CD34: BI, biosynthesis
Antigens, CD44: BI, biosynthesis
Antigens, CD44: IM, immunology
*Antigens, CD44: PH, physiology
Antigens, Differentiation: BI, biosynthesis
Bone Marrow Cells
Cell Adhesion: DE, drug effects
Cell Adhesion: IM, immunology
Clone Cells
Colony-Forming Units Assay
*Cytokines: PH, physiology
Granulocyte-Macrophage Colony-Stimulating Factor: PD, pharmacology
Hematopoietic Stem Cells: DE, drug effects
*Hematopoietic Stem Cells: PH, physiology
Histocompatibility Antigens Class II: BI, biosynthesis
*Hyaluronic Acid: PH, physiology
Interleukin-3: PD, pharmacology
N-glycosyl Hydrolases: BI, biosynthesis
Stem Cell Factor: PD, pharmacology
Tetradecanoylphorbol Acetate: PD, pharmacology

RN 16561-29-8 (Tetradecanoylphorbol Acetate); 83869-56-1 (Granulocyte-Macrophage Colony-Stimulating Factor); 9004-61-9 (Hyaluronic Acid)

CN 0 (Antibodies, Monoclonal); 0 (Antigens, CD34); 0 (Antigens, CD44); 0 (Antigens, Differentiation); 0 (Cytokines); 0 (Histocompatibility Antigens Class II); 0 (Interleukin-3); 0 (Stem Cell Factor); EC 3.2.2.- (N-glycosyl Hydrolases); EC 3.2.2.5 (ADP-ribosyl Cyclase); EC 3.2.2.5 (CD38 antigen)

L146 ANSWER 3 OF 7 MEDLINE

AN 97096814 MEDLINE

DN 97096814 PubMed ID: 8941660

TI **Hyaluronan** (HA) fragments induce chemokine gene expression in alveolar macrophages. The role of HA size and CD44.

AU **McKee C M**; Penno M B; Cowman M; Burdick M D; Strieter R M; Bao C; Noble P W

CS Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland 21205, USA.

NC K11HL02880 (NHLBI)

SO JOURNAL OF CLINICAL INVESTIGATION, **(1996 Nov 15) 98** (10) **2403-13.** Journal code: ?802877?. ISSN: 0021-9?3?.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199701
ED Entered STN: 19970219
Last Updated on STN: 19990129
Entered Medline: 19970123

AB Hyaluronan (HA) is a glycosaminoglycan constituent of extracellular matrix. In its native form HA exists as a high molecular weight polymer, but during inflammation lower molecular weight fragments accumulate. We have identified a collection of inflammatory genes induced in macrophages by HA fragments but not by high molecular weight HA. These include several members of the chemokine gene family: macrophage inflammatory protein-1alpha, macrophage inflammatory protein-1beta, cytokine responsive gene-2, monocyte chemoattractant protein-1, and regulated on activation, normal T cell expressed and secreted. HA fragments as small as hexamers are capable of inducing expression of these genes in a mouse alveolar macrophage cell line, and monoclonal antibody to the HA receptor CD44 completely blocks binding of fluorescein-labeled HA to these cells and significantly inhibits HA-induced gene expression. We also investigated the ability of HA fragments to induce chemokine gene expression in human alveolar macrophages from patients with idiopathic pulmonary fibrosis and found that interleukin-8 mRNA is markedly induced. These data support the hypothesis that HA fragments generated during inflammation induce the expression of macrophage genes which are important in the development and maintenance of the inflammatory response.

CT Check Tags: Animal; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Antibodies, Blocking: IM, immunology
Antibodies, Monoclonal: IM, immunology
Antigens, CD44: IM, immunology
Blotting, Northern
Bronchoalveolar Lavage
Cells, Cultured
*Gene Expression Regulation: IM, immunology
Glyceraldehyde-3-Phosphate Dehydrogenases: GE, genetics
*Hyaluronic Acid: IM, immunology
Inflammation: GE, genetics
Interleukin-8: GE, genetics
*Macrophage Inflammatory Protein-1: GE, genetics
*Macrophages, Alveolar: IM, immunology
Mice
*Monocyte Chemoattractant Protein-1: GE, genetics
*Monokines: GE, genetics
Pulmonary Fibrosis: GE, genetics
Pulmonary Fibrosis: IM, immunology
RANTES: GE, genetics
RNA, Messenger: AN, analysis
RNA, Messenger: BI, biosynthesis

RN 9004-61-9 (Hyaluronic Acid)
CN 0 (Antibodies, Blocking); 0 (Antibodies, Monoclonal); 0 (Antigens, CD44); 0 (CRG-2 protein); 0 (Interleukin-8); 0 (Macrophage Inflammatory Protein-1); 0 (Monocyte Chemoattractant Protein-1); 0 (Monokines); 0 (RANTES); 0 (RNA, Messenger); EC 1.2.1.- (Glyceraldehyde-3-Phosphate Dehydrogenases)

L146 ANSWER 4 OF 7 MEDLINE
AN 97047840 MEDLINE
DN 97047840 PubMed ID: 8892681
TI Altered patterns of CD44 epitope expression in human chronic and acute myeloid leukemia.
AU **Ghaffari S**; Dougherty G J; Eaves A C; Eaves C J
CS Terry Fox Laboratory, British Columbia Cancer Agency, Vancouver, Canada.
SO **LEUKEMIA, (1996 Nov) 10** (11) **1773-81**

Journal code: 8704895. ISSN: 0887-6924.
CY ENGLAND: United Kingdom
DT Journal; Article; JOURNAL ARTICLE
LA English
FS Priority Journals
EM 199612
ED Entered STN: 19970128
Last Updated on STN: 19970128
Entered Medline: 19961203

AB Abnormal expression of different isoforms of CD44 has been found to characterize many types of malignant cells although data for human acute and chronic myeloid leukemia is limited. In this study, we have identified significant, albeit variable, increases in these diseases of the frequency of both light density and CD34+ cells expressing two particular CD44 epitopes, neither of which is commonly found on normal human marrow cells. One of these epitopes is unique to exon v10-containing isoforms of CD44. The other is located in the common region of CD44 and was previously revealed on T cells only after their activation. Interestingly, another T cell activation-associated epitope was found to be expressed on a high proportion of normal marrow cells including the CD34+ subset and this remained the case for most of the primary leukemic samples evaluated. As expected, >90% of cells in all primary normal and leukemic samples expressed high levels of CD44, as shown by their reactivity with an antibody specific for the CD44 hyaluronan-binding site. To begin investigating how expression of the CD44 epitopes seen more commonly on leukemic than on normal CD34+ cells may be modulated, and to identify potentially associated effects on the hyaluronan-binding ability of the CD44 expressed, the effect of phorbol ester treatment on these properties of CD44 were examined. For these studies, a panel of five different human leukemic cell lines that were found to exhibit different patterns of CD44 expression and function in the absence of phorbol ester were used. Both the level and the hyaluronan-binding properties of CD44 could be stimulated in some, but not all, of these leukemic cell lines. Taken together, our findings indicate that CD44 expression is perturbed in a variety of leukemic populations suggesting a possible relationship to some of the pathogenetic features they share.

CT Check Tags: Human; Support, Non-U.S. Gov't
Antigens, CD44: BI, biosynthesis
*Antigens, CD44: IM, immunology
Epitope Mapping
*Epitopes: IM, immunology
Flow Cytometry
*Leukemia, Myelocytic, Acute: IM, immunology
*Leukemia, Myeloid, Chronic: IM, immunology
*Tumor Markers, Biological
CN 0 (Antigens, CD44); 0 (Epitopes); 0 (Tumor Markers, Biological)

L146 ANSWER 5 OF 7 MEDLINE
AN 97013283 MEDLINE
DN 97013283 PubMed ID: 9172805
TI CD44 and **hyaluronan** binding by human myeloid cells.
AU Smadja-Joffe F; Legras S; Girard N; Li Y; **Delpech B**; Bloget F; Morimoto K; Le Bousse-Kerdiles C; Clay D; Jasmin C; Levesque J P
CS Unite d'Oncogenese Appliquee, Inserm U268, Hopital Paul Brousse, Villejuif, France.
SO **LEUKEMIA AND LYMPHOMA**, (1996 May) 21 (5-6) 407-20, color plates following 526. Ref: 112
Journal code: 9007422. ISSN: 1042-8194.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)

LA English
FS Priority Journals
EM 199710
ED Entered STN: 19970612
Last Updated on STN: 19970612
Entered Medline: 19970605

AB The CD44 cell surface molecule has been shown to be the principal cell surface receptor for hyaluronan (or hyaluronic acid), a glycosaminoglycan component of marrow extracellular matrix. However, its affinity for hyaluronan is not constitutive, since it depends on the cell type, the stage of differentiation and on activation by external stimuli including certain anti-CD44 antibodies and phorbol esters. Except for a few lymphoid cell lines, hematopoietic cells do not spontaneously bind hyaluronan and initial studies reported that, contrary to lymphocytes, myeloid cells could not be activated to bind hyaluronan. Because CD44 plays an important role in the initial phases of hematopoiesis, as shown by experiments using blocking anti-CD44 monoclonal antibodies, its capacity to mediate adhesion of primitive myeloid cells has been investigated. It was found that CD44 could mediate spontaneous adhesion to hyaluronan of immature myeloid cell lines KG1, KG1a, and TF1, which serve as a model for hematopoietic progenitors. However, despite expressing high amounts of CD44, no more than 15% of bone marrow progenitors could adhere to hyaluronan. Recent experiments have shown that a very important feature of CD44 is its capacity to be rapidly activated by certain antibodies and cytokines (GM-CSF and KL) from a low affinity to a high affinity state for hyaluronan. These data shed light on striking similarities in the functional regulation of CD44 and of the two integrin receptors VLA-4 (a4b1), and VLA-5 (a5b1), which are also expressed on hematopoietic progenitors. The relevance of these data to the regulation of normal hematopoiesis and mobilization of CD34+ progenitors in the view of cell grafting is analyzed. In addition, we show that in idiopathic myelofibrosis, the amount of hyaluronan is markedly increased in the extracellular matrix from the myeloproliferative spleen. Considering that the production of cytokines is enhanced in this disease, we discuss whether CD44-hyaluronan interaction may have a role in the pathophysiology of this myeloproliferative syndrome.

CT Check Tags: Human
Antibodies, Monoclonal: IM, immunology
Antibodies, Monoclonal: PD, pharmacology
Antigens, CD44: CH, chemistry
Antigens, CD44: IM, immunology
*Antigens, CD44: ME, metabolism
Carbohydrate Conformation
Carbohydrate Sequence
Cell Adhesion: DE, drug effects
Cell Movement
Extracellular Matrix: ME, metabolism
Hematopoiesis: PH, physiology
Hematopoietic Cell Growth Factors: PH, physiology
Hematopoietic Stem Cells: CY, cytology
*Hematopoietic Stem Cells: ME, metabolism
Hyaluronic Acid: CH, chemistry
*Hyaluronic Acid: ME, metabolism
Integrins: PH, physiology
Leukemia: PA, pathology
Molecular Sequence Data
Myelofibrosis: ME, metabolism
Myelofibrosis: PA, pathology
Protein Binding
Receptors, Fibronectin: PH, physiology
Receptors, Lymphocyte Homing: PH, physiology
Spleen: ME, metabolism
Spleen: PA, pathology

Tumor Cells, Cultured
RN 9004-61-9 (Hyaluronic Acid.
CN 3 (Antibodies, Monoclonal.; 4 (Antigens, CD44*; 5 (Hematopoietic Cell Growth Factors*; 6 (Integrins.; 7 Receptors, Fibronectin.; 8 Receptors, Lymphocyte Homing*; 9 (Integrin alpha4beta1)

L144 ANSWER 4 OF 5 MEDLINE
AN 94129005 MEDLINE
DN 94129005 PubMed ID: 7506730
TI **CD44** mediates **hyaluronan** binding by human myeloid **KG1A** and KG1 cells.
AU **Morimoto K**; Robin E; Le Bousse-Kerdiles M C; Li Y; Clay D; Jasmin C; Smadja-Joffe F
CS Unite d'Oncogenese Appliquee, Inserm U268, Hopital Paul Brousse, Villejuif, France.
SO BLOOD, (1994 Feb 1) 83 (3) 657-62.
Journal code: 7603509. ISSN: 0006-4971.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199403
ED Entered STN: 19940318
Last Updated on STN: 19960129
Entered Medline: 19940309
AB Hyaluronan-binding function of the CD44 molecule has not been so far detected in myeloid cells. To study pure populations of primitive myeloid cells, we investigated the hyaluronan-binding function of the CD44 molecule from three myeloid cell lines: KG1a, KG1, and HL60. Both KG1a and KG1 cells express the CD34 antigen characteristic of the hematopoietic stem cells and HL60 cells do not; accordingly, KG1a and KG1 cells are generally considered as the most primitive and HL60 cells as the most mature of these cell lines. Measurement of cell adhesion to hyaluronan-coated surfaces (using 51Cr-labeled cells) and of aggregate formation in hyaluronan-containing solutions, showed that 45% of KG1 cells and 22% to 24% of KG1a spontaneously bind to hyaluronan, whereas HL60 cells do not either spontaneously or after treatment with a phorbol ester. Hyaluronan binding by KG1a and KG1 cells is mediated by CD44, because it is specifically abolished by monoclonal antibodies (MoAbs) to this molecule. The binding might require phosphorylation by protein kinase C and perhaps also by protein kinase A, because it is prevented by staurosporine, which inhibits these enzymes. 12-O-tetradecanoylphorbol-13-acetate (TPA) which activates protein kinase C, rises to 80% the proportion of KG1 and KG1a cells that bind hyaluronan; this activation is dependent on protein synthesis, for it is abrogated by cyclophosphamide, a protein synthesis inhibitor. Binding of TPA-treated cells to hyaluronan is only partly inhibited by MoAb to CD44: this suggests that TPA may induce synthesis of a hyaluronan-binding protein distinct from CD44. Considering the abundance of hyaluronan in human bone marrow, these results suggest that CD44 may be involved in mediating precursor-stroma interaction.
CT Check Tags: Human; Support, Non-U.S. Gov't
Alkaloids: PD, pharmacology
Antigens, CD44
Bone Marrow: ME, metabolism
*Bone Marrow Cells
Carrier Proteins: AN, analysis
*Carrier Proteins: PH, physiology
Cell Adhesion
Cell Aggregation
Cell Line
*Hyaluronic Acid: ME, metabolism
Receptors, Cell Surface: AN, analysis
*Receptors, Cell Surface: PH, physiology

Receptors, Lymphocyte Homing: AN, analysis
*Receptors, Lymphocyte Homing: PH, physiology
Staurosporine
Tetradecanoylphorbol Acetate: PD, pharmacology
RN 16561-29-8 (Tetradecanoylphorbol Acetate) ; 62996-74-1 (Staurosporine) ;
9004-61-9 (Hyaluronic Acid)
CN 0 (Alkaloids) ; 0 (Antigens, CD44) ; 0 (Carrier Proteins) ; 0 (Receptors, Cell Surface) ; 0 (Receptors, Lymphocyte Homing)

L140 ANSWER 7 OF 7 MEDLINE
AN 93148068 MEDLINE
DN 93148068 PubMed ID: 7678676
TI Expression of the **hyaluronan**-binding glycoprotein **hyaluronectin** in leukemias.
AU **Delpech B**; Vannier J P; Girard N; Bizet M; **Delpech A**; Lenormand B; Tilly H; Piguet H
CS Laboratoire d'Oncologie Moleculaire, Centre Henri-Becquerel, Rouen, France.
SO **LEUKEMIA**, (1993 Feb) 7 (2) 172-6.
Journal code: 8704895. ISSN: 0887-6924.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199303
ED Entered STN: 19930312
Last Updated on STN: 19960129
Entered Medline: 19930301
AB Hyaluronectin (HN), a hyaluronan (hyaluronic acid, HA)-binding glycoprotein is normally expressed in the nervous system, found in the desmoplasia of tumours, and is also produced in vitro by peripheral blood mononuclear cells. We have therefore investigated the expression and the production of HN by leukemic cells, with the hypothesis that HN would be expressed in leukemias of the myeloid lineage. Fresh and frozen leukemic cells were studied from 70 patients of whom 53 had acute myeloblastic leukemia (AML). HN was strongly expressed (> 80% blood cells) in two out of 13 M4 AMLs and four out of four M5B AMLs. One further M4 AML displayed 25% positive cells and two 20% cell positivity cases were seen, in one case of M4 AML and in one case of chronic myelomonocytic leukemia (CMML). The rest of the cases of AML as well as all cases of acute lymphoblastic leukemia (ALL) showed almost no positivity (< 1%). The residual positive cells appeared to be normal blood promonocytes. Taken together > or = 20% positive cells was seen in eight out of 56 (14%) examined myeloid leukemias. The HN production was significantly higher ($p < 0.0001$) in cell culture media of M4 and M5 AML cells than in other AML or ALL cell culture media. A significant correlation was found ($p < 0.0001$) between the number of HN-positive leukemic cells and the number of cells with a monocytic morphology, suggesting that HN is a marker for the promonocyte.
CT Check Tags: Human; Support, Non-U.S. Gov't
Acute Disease
Antigens, CD44
Bone Marrow: PA, pathology
*Carrier Proteins: AN, analysis
*Leukemia, Myeloid: ME, metabolism
*Leukemia, Myelomonocytic, Chronic: ME, metabolism
*Monocytes: ME, metabolism
*Receptors, Cell Surface: AN, analysis
CN 0 (Antigens, CD44); 0 (Carrier Proteins); 0 (Receptors, Cell Surface)

=> fil biosis
FILE 'BIOSIS' ENTERED AT 10:10:55 ON 31 JAN 2003
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FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 29 January 2003 (20030129/ED

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L149 ANSWER 1 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1996:393345 BIOSIS
DN PREV199699115701
TI The adhesion molecule **CD44** mediates granulocytic differentiation of HL60 myeloid leukemia cells and enhances the differentiation of CD34+ hematopoietic progenitors.
AU **Li, Y. (1)**; Charrad, S.; Legras; Morimoto, K. (1); Lebousse-Kerdiles, M. C. (1); Clay, D. (1); Jasmin, C. (1); Smadja-Joffe, F. (1)
CS (1) Inserm U-266, Hopital P. Brousse, 14 av. P. Couturier, 94800 Villejuif France
SO British Journal of Haematology, (1996) Vol. 93, No. SUPPL. 2, pp. 346. Meeting Info.: Second Meeting of the European Haematology Association Paris, France May 29-June 1, 1996
ISSN: 0007-1048.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Carbohydrates 10068
Biophysics - Membrane Phenomena *10508
Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies *15006
Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System *15008
Endocrine System - General *17002
Neoplasms and Neoplastic Agents - Immunology *24003
Neoplasms and Neoplastic Agents - Blood and Reticuloendothelial Neoplasms *24010
BC Hominidae *86215
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Endocrine System (Chemical Coordination and Homeostasis); Hematology (Human Medicine, Medical Sciences); Membranes (Cell Biology); Oncology (Human Medicine, Medical Sciences)
IT Miscellaneous Descriptors
IMMUNE RESPONSE; INTERLEUKIN-1; INTERLEUKIN-3; MEETING ABSTRACT; MEMBRANE GLYCOPROTEIN; STEM CELL FACTOR
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates

L149 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:185467 BIOSIS
DN PREV199598199767
TI **CD44**: A signaling molecule for differentiation of HL60 myeloid leukemia cell line.
AU **Li, Y.**; Legras, S.; Robin, E.; Le Bousse-Kerdiles, C.; Jasmin, C.; Smadja-Joffe, F.

CS INSERM U. 166, Hop. P. Brousse, 94801-Villejuif France
SO Proceedings of the American Association for Cancer Research Annual Meeting, (1995) Vol. 36, No. 0, pp. 215.
Meeting Info.: Eighty-sixth Annual Meeting of the American Association for Cancer Research Toronto, Ontario, Canada March 18-22, 1995
ISSN: 0197-016X.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00801
Cytology and Cytochemistry - Human *02016
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Carbohydrates 10066
Biophysics - Molecular Properties and Macromolecules 10506
Biophysics - Membrane Phenomena *10508
Enzymes - Physiological Studies *10808
Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies *15006
Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System *15008
Neoplasms and Neoplastic Agents - Blood and Reticuloendothelial Neoplasms *24010
Immunology and Immunochemistry - General; Methods *34502
BC Hominidae *86215
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Cell Biology; Enzymology (Biochemistry and Molecular Biophysics); Hematology (Human Medicine, Medical Sciences); Immune System (Chemical Coordination and Homeostasis); Membranes (Cell Biology); Oncology (Human Medicine, Medical Sciences)
IT Chemicals & Biochemicals
PROTEIN KINASE C
IT Miscellaneous Descriptors
MEETING ABSTRACT; MONOCLONAL ANTIBODIES; MYELOPOIESIS; PROTEIN KINASE C; TRANSMEMBRANE GLYCOPROTEIN
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates
RN 141436-78-4 (PROTEIN KINASE C)

=> d his

(FILE 'HOME' ENTERED AT 08:22:00 ON 31 JAN 2003)
SET COST OFF

FILE 'REGISTRY' ENTERED AT 08:30:08 ON 31 JAN 2003
L1 0 S C6H10O7 AND C8H15NO6 AND PMS/CI
L2 0 S C6H10O7 AND C8H15NO6
E (C14H23NO12)/MF
L3 3 S E11
L4 1 S L3 NOT (6 OR 3)
E (C14H21NO11)/MF
L5 32 S C6H10O7/MF AND OC5/ES
L6 26 S L5 NOT (DIULOSE OR LABELED OR (D OR T)/ELS OR ION OR 11C# OR
L7 4 S L6 AND HEXULOPYRAN?
L8 22 S L6 NOT L7
L9 119 S C6H10O7/MF NOT L5
L10 101 S L9 NOT (DIULOSE OR LABELED OR (D OR T)/ELS OR ION OR 11C# OR
L11 9 S L10 AND NR>=1

```
L11          92 S L10 NOT L11
L12          80 S L11 NOT HEXULOSON?
L13          34 S L12 NOT ?URONIC?/CNS
L14          26 S L13 NOT L14
L15          25 S L15 NOT 3
L16          47 S L6,L16
L18         120 S C6H10NO6/MF AND OCS/ES
L19         118 S L18 NOT (DIULOSE OR LABELED OR ?D OR T?/ELS OR ION OR 11C# OR
L20          88 S L19 NOT 2 ACETYLAMINO
L21          27 S L19 NOT L20
L22         162 S C8H13NO6/MF NOT L18
L23          33 S L22 AND NR>=1
L24         129 S L22 NOT L23
L25          90 S L24 NOT (DIULOSE OR LABELED OR ?D OR T?/ELS OR ION OR 11C# OR
L26          68 S L25 NOT 2 ACETYLAMINO
L27          22 S L25 NOT L26
L28          21 S L27 NOT 15N
L29          48 S L28 OR L21
             SEL RN L17
L30         640 S E1-E47/CRN
             SEL RN L29
L31         261 S E48-E95/CRN
L32           2 S L30 AND L31
              E C14H23NO12/MF
L33          39 S E3-E5
L34          23 S L33 NOT 4 O
L35          16 S L33 NOT L34
L36          14 S L35 NOT MANNOPYRANURONIC
L37          16 S L32,L36
             SEL RN
L38           2 S E1-E16/CRN
L39           1 S L38 AND PMS/CI
L40           1 S L4,L39
L41           2 S 9067-32-7 OR 9004-61-9
L42         437 S HYALURONIC ACID
L43         435 S L42 NOT L41
L44         392 S L43 NOT SQL/FA
L45         310 S L44 NOT (MXS OR IDS)/CI
L46         115 S L45 AND NR>=1
L47         195 S L45 NOT L46
L48         129 S L47 NOT SALT
L49           5 S L48 AND HYDROCHLOR?
L50           1 S L48 AND HYDROCHLORIDE AND 1/NC
L51          66 S L47 NOT L48
L52          18 S L51 AND 1/NC
L53          17 S L52 NOT REACTION
L54          15 S L51 AND 2/NC
L55          33 S L51 NOT L52-L54
L56          20 S L41,L50,L53

     FILE 'HCAPLUS' ENTERED AT 09:02:23 ON 31 JAN 2003
L57           2 S L40
L58       10111 S L56
L59       12990 S HYALURONIC ACID OR HYALURONAN OR HEALON OR HYALART OR HYALEIN
L60        5343 S HYALURONATE OR (NA OR SODIUM)()HYALURON?
L61       15123 S L58-L60
L62          92 S L61 AND CELL DIFFERENTIATION+NT/CT
L63          11 S L61 AND AML?
L64           1 S L62 AND ACUTE MYELO?(L)(LEUKEM? OR LEUCEM? OR LEUKAEM? OR LE
L65          10 S L61 AND CD14?
L66           2 S L61 AND CD15?
L67          17 S L61 AND (?CD14? OR ?CD15?)
L68          17 S L65-L67
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L68          448 S L61 AND ?CD44?
                 E CD44/CT
                 E E4+ALL
L70         2678 S E19-E22,E18
L71          827 S L61 AND L70
L72          940 S L69,L71
L73          321 S L72 AND ANTIBOD?
L74           92 S L72 AND MAB?
L75          138 S L72 AND ANTI CD44
L76            2 S L72 AND ANTI ICAM?
                 E ICAM/CT
                 E E7+ALL
L77         4958 S E2
                 E ICAM/CT
                 E E4+ALL
L78           26 S L72 AND L77
L79           52 S L72 AND (ICAM OR INTERCELLULAR ADHESION MOL)(1)1
L80          940 S L72-L76,L78,L79
L81           23 S L80 AND L62
L82            1 S L80 AND L63,L54
                 E LEUKEMIA/CT
L83        30490 S E3-E51
                 E E3+ALL
L84        30515 S E9+NT
L85           38 S L61 AND L83,L84
L86            2 S L63,L64,L65 AND L62
L87            2 S L82,L86
L88            6 S L85 AND ?DIFFERENTIAT?
                 E CELL DIFFERENTIATION/CT
                 E E3+ALL
L89            6 S L87,L88
                 SEL DN AN 1 2
L90            2 S L89 AND E1-E6
L91            4 S L62 AND ANIMAL CELL?/CT
                 SEL DN AN 1 3
L92            2 S E7-E12
L93            4 S L87,L90,L92
L94            6 S L57,L93
L95           25 S L62 AND L65-L80
L96           23 S L95 NOT L94
                 SEL DN AN 6 9-12 14 16-18 22
L97           10 S E13-E42
L98           16 S L94,L97 AND L57-L97
L99           15 S L98 AND (?DIFFERENTIAT? OR ?LEUCEM? OR ?LEUKEM? OR ?LEUCAEM?
L100          16 S L98,L99
L101         636 S L61 AND GLUCURON?
L102         343 S L101 AND ?GLUCOSAMIN?
L103         276 S L102 NOT (GLUCURONIDASE OR GLUCOAMINIDASE)
L104          24 S L103 AND 1 4
                 SEL DN AN L103 6 8
L105           1 S L104 AND E43-E46
L106           2 S (2002:776209 OR 2002:884296)/AN
L107          23 S L104 NOT L105,L106
L108          41 S L100,L104-L107
                 E SMADJA J/AU
L109          41 S E3,E6,E7
                 E JOFFE/AU
                 E CHARRAD/AU
L110           5 S E4,E5
                 E RACHIDA/AU
                 E SIHEM/AU
                 E CHOMIENNE C/AU
L111          67 S E3-E5
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                E DELPECH B/AU
L111          108 S E3,E7
                E JASMIN C/ AU
L112          136 S E3,E4
L113           88 S L61 AND L109-L113
L114            2 S L108 AND L114
L115           41 S L108,L115
L116           56 S L114 NOT L116
L117           12 S L117 AND L62-L100
                SEL DN AN 5 6 8 9
L118            4 S L118 AND E1-E12
L119           45 S L108,L119
L120           52 S L117 NOT L120
L121            SEL DN AN 1 11
L122            2 S L121 AND E13-E16
L123           47 S L120,L122 AND L57-L122

      FILE 'REGISTRY' ENTERED AT 09:57:05 ON 31 JAN 2003
L124            2 S L3 NOT L4
L125            1 S L124 NOT 6
                E SCAN

      FILE 'HCAPLUS' ENTERED AT 09:58:01 ON 31 JAN 2003
L126            2 S L125
L127           48 S L123,L126 AND L57-L123
                SEL HIT RN

      FILE 'REGISTRY' ENTERED AT 09:58:39 ON 31 JAN 2003
L128            4 S E1-E4

      FILE 'REGISTRY' ENTERED AT 09:59:10 ON 31 JAN 2003

      FILE 'HCAPLUS' ENTERED AT 09:59:17 ON 31 JAN 2003

      FILE 'WPIX' ENTERED AT 09:59:46 ON 31 JAN 2003
                E WO2000-FR349/AP,PRN
L129            1 S E3

      FILE 'DPCI' ENTERED AT 10:00:03 ON 31 JAN 2003
                E WO2000-FR349/AP,PRN
L130            1 S E3

      FILE 'WPIX' ENTERED AT 10:00:15 ON 31 JAN 2003

      FILE 'DPCI' ENTERED AT 10:00:29 ON 31 JAN 2003

      FILE 'WPIX' ENTERED AT 10:00:57 ON 31 JAN 2003
                E DE19802540/AP,PRN
                E DE19802540/PN
L131            1 S E3
                E EP240098/PN
L132            1 S E3
                E EP795560/PN
L133            1 S E3
L134            3 S L131-L133

      FILE 'WPIX' ENTERED AT 10:02:36 ON 31 JAN 2003

      FILE 'HCAPLUS' ENTERED AT 10:02:51 ON 31 JAN 2003

      FILE 'MEDLINE' ENTERED AT 10:05:00 ON 31 JAN 2003
L135            1 S GHAFFARI ?/AU AND LEUK?/JT AND 1990/PY AND (10 AND 1773)/SO
L136            1 S LEGRAS ?/AU AND BLOOD/JT AND 1997/PY AND '69 AND 1985)/SO
```

L137 1 S MCKEE ?/AU AND 1996 PY AND ... AND ... AND HYALURONAN TI
L138 2 S DELPECH ?/AU AND LEUKO? ... AND HYALURON? TI
L139 0 S LI ?/AU AND CD44/TI AND 1996/PY AND ... AND ...
L140 21 S LI ?/AU AND CD44/TI
L141 ... S L140 AND HL60/TI
L142 5 S MORIMOTO ?/AU AND CD44/TI AND HYALURON?/TI
L143 1 S L142 AND KG1A/TI
L144 1 S CHARRAD ?/AU AND NATURE? JT AND ...
L145 21 S LI ?/AU AND CD44/TI
L146 7 S L135-L138,L143,L144

FILE 'MEDLINE' ENTERED AT 10:09:36 ON 31 JAN 2003

FILE 'BIOSIS' ENTERED AT 10:09:47 ON 31 JAN 2003
L147 36 S LI ?/AU AND CD44/TI
L148 11 S L147 AND (1995 OR 1996)/PY
SEL DN AN 4 11
L149 2 S L148 AND E1-E4

FILE 'BIOSIS' ENTERED AT 10:10:55 ON 31 JAN 2003

FILE 'HCAPLUS' ENTERED AT 10:11:03 ON 31 JAN 2003
L150 6 S LI ?/AU AND CD44/TI AND (1995 OR 1996)/PY

=> fil reg
FILE 'REGISTRY' ENTERED AT 14:41:01 ON 21 JAN 2003
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STRUCTURE FILE UPDATES: 20 JAN 2003 HIGHEST RN 475957-81-6
DICTIONARY FILE UPDATES: 20 JAN 2003 HIGHEST RN 475957-81-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

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L1 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN **9067-32-7** REGISTRY
CN Hyaluronic acid, sodium salt (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Artz
CN Bio Hyaluro 12
CN FCH 200
CN FCH 248
CN HA-Q
CN HA-Q 1
CN Healon
CN Healon (polysaccharide)
CN Healon GV
CN Hyalart
CN Hyalein
CN Hyalgan
CN Hyladerm
CN Nidelon
CN NRD 101
CN Opegan
CN Orthovisc
CN SI 4402
CN SL 1013
CN SLM 10
CN Sodium hyaluronate
CN SPH
DR 34448-35-6
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyether, Polyether only
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CENB, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MRCK*, PHAR, PHARMASEARCH, PROMT, RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL
*File contains numerically searchable property data

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
9[illegible]7 REFERENCES IN FILE CA (1962 TO DATE)
87 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1[illegible]1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:44739

REFERENCE 2: 138:29217

REFERENCE 3: 138:29203

REFERENCE 4: 138:29160

REFERENCE 5: 138:28964

REFERENCE 6: 138:21903

REFERENCE 7: 138:315

REFERENCE 8: 137:389255

REFERENCE 9: 137:389246

REFERENCE 10: 137:389204

L1 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN **9004-61-9** REGISTRY
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN ACP
CN ACP (polysaccharide)
CN ACP gel
CN Durolane
CN Hyaluronan
CN Hylartil
CN Luronit
CN Mucoitin
CN Sepracoat
CN Synvisc
DR 9039-38-7, 37243-73-5, 29382-75-0
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyester, Polyester formed
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGNL, DRUGU, DRUGUPDATES, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, NAPRALERT, NIOSHTIC, PHAR, PHARMASEARCH, PIRA, PROMT, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
9066 REFERENCES IN FILE CA (1962 TO DATE)
[illegible]99 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
9[illegible]7 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:44748

REFERENCE 2: 138:44756

REFERENCE 3: 138:44756

REFERENCE 4: 138:44739

REFERENCE 5: 138:44721

REFERENCE 6: 138:44717

REFERENCE 7: 138:447[illegible]

REFERENCE 8: 138:444[illegible]

REFERENCE 9: 138:40942

REFERENCE 10: 138:40803

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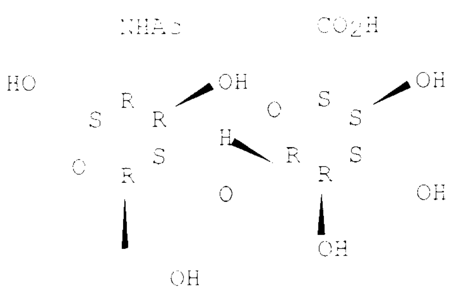
L55 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 191165-02-3 REGISTRY
CN .alpha.-D-Glucopyranose, 2-(acetylamino)-2-deoxy-4-O-.beta.-D-
glucopyranuronosyl-, homopolymer (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF (C14 H23 N O12)x
CI PMS
PCT Polyamide, Polyamide formed, Polyester, Polyester formed, Polyether
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

CM 1

CRN 78245-16-6
CMF C14 H23 N O12

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:381685

REFERENCE 2: 127:50908

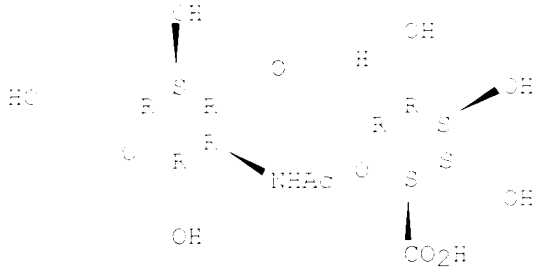
L55 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 163686-45-1 REGISTRY
CN .beta.-D-Glucopyranose, 2-(acetylamino)-2-deoxy-4-O-.beta.-D-
glucopyranuronosyl-, homopolymer (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF (C14 H23 N O12)x
CI PMS
PCT Polyamide, Polyamide formed, Polyester, Polyester formed, Polyether

SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

DM 1

CRN 97747-46-1
CMF C14 H23 N O12

Absolute stereochemistry.



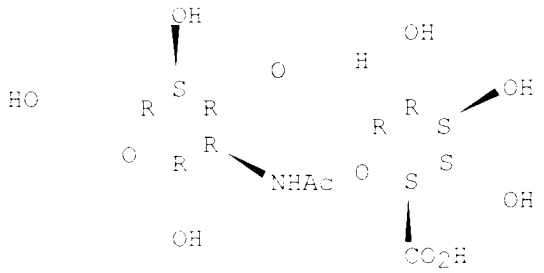
2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:353248

REFERENCE 2: 133:182973

L55 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN **97747-46-1** REGISTRY
CN .beta.-D-Glucopyranose, 2-(acetylamino)-2-deoxy-3-O-.beta.-D-glucopyranuronosyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C14 H23 N O12
CI COM
SR Commission of European Communities
LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMLIST
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5 REFERENCES IN FILE CA (1962 TO DATE)
5 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:260228

REFERENCE 2: 127:108787

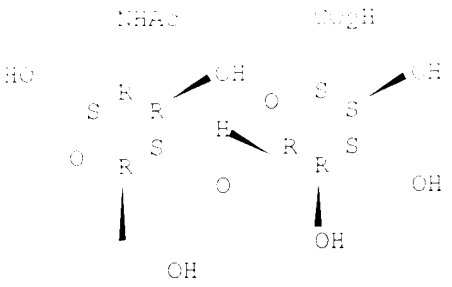
REFERENCE 3: 127:149336

REFERENCE 4: 124:56507

REFERENCE 5: 116:41929

L11 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2003 ACS
RN 78245-16-6 REGISTRY
CN .alpha.-D-Glucopyranose, 2-[acetylamino]-2-deoxy-4-O-.beta.-D-glucopyranuronosyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 307335-78-0
MF C14 H23 N O12
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

8 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
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REFERENCE 1: 138:21878

REFERENCE 2: 136:128792

REFERENCE 3: 134:189923

REFERENCE 4: 134:1935

REFERENCE 5: 123:33555

REFERENCE 6: 114:201865

REFERENCE 7: 112:177017

REFERENCE 8: 95:40600

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=> d all tot 1-9

L-9 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 2003:39719 HCAPLUS
TI **Hyaluronan**-derived oligosaccharides enhance SDF-1-dependent chemotactic effect on peripheral blood **hematopoietic** CD34+ cells
AU Spaa-Ketata, Elhem; Courel, Marie-Noelle; **Delpech, Bertrand**; Vannier, Jean-Pierre
CS Groupe de Recherche sur le Micro-Environnement et le Renouvellement Cellulaire Integre, Rouen, Fr.
SO Stem Cells (Miamisburg, OH, United States) (2002), 20(6), 585-597
CODEN: STCEEJ; ISSN: 1066-5099
PB AlphaMed Press
DT Journal
LA English
CC 13 (Mammalian Biochemistry)
AB Unavailable

L-9 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:895981 HCAPLUS
TI Human monocytes synthesize **hyaluronidase**
AU Girard, Nicole; Maingonnat, Catherine; Bertrand, Philippe; Tilly, Herve; Vannier, Jean-Pierre; **Delpech, Bertrand**
CS Laboratory of Molecular Oncology, Universite de Haute-Normandie, Rouen, Fr.
SO British Journal of Haematology (2002), 119(1), 199-208
CODEN: BJHEAL; ISSN: 0007-1048
PB Blackwell Science Ltd.
DT Journal
LA English
CC 13 (Mammalian Biochemistry)
AB The involvement of **hyaluronic acid** (HA) oligosaccharides and blood-derived mononuclear cells in inflammatory processes prompted us to det. whether peripheral blood mononuclear cells (PBMC) possess **hyaluronidase** activity. PBMC were incubated with macromol.-tritiated HA at pH 3.8 and supernatants were analyzed by size exclusion chromatog. to reveal digestion of HA. This digestion was due to the CD14-pos. (CD14+), adherent, non-specific esterase-pos., subpopulation of PBMC. **Hyaluronidase** activity (72 kDa) was found in aq. and non-ionic detergent PBMC exts. but not in the medium in which the cells had been cultured. These results indicate that **hyaluronidase** is, at least in part, linked to the membrane rather than excreted. Hence, monocytes have one or more **hyaluronidases** that can generate a pool of active HA fragments within tissues. **Hyaluronidase**

activity was also found in 3 of 3 myelomonocytic lineage **leukemias** but not in 3/3 lymphoblastic **leukemias**.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L89 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN **2000:790320** HCAPLUS
DN **133:344616**
TI Use of fragments of **hyaluronic acid** to limit neo-intimal proliferation following vascular trauma
IN Chajara, Abdesslam; Levesque, Herve; **Delpech, Bertrand**
PA Laboratoire L. Lafon, Fr.
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM A61K031-728
ICS A61P009-10
CC **1-8** (Pharmacology)
Section cross-reference(s): **63**

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000066132	A1	20001109	WO 2000-FR1176	20000502
	W: CA, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	FR 2793140	A1	20001110	FR 1999-5611	19990503
PRAI	FR 1999-5611	A	19990503		

AB The invention relates to the use of a fragment (or mixt. of fragments) of **hyaluronic acid** comprising 4-100 monosaccharide motifs or motifs of one of the pharmaceutically acceptable salts thereof in the prodn. of a medicament which is designed to limit neo-intimal proliferation following vascular trauma. **Hyaluronic acid** was hydrolyzed by treatment with **hyaluronidase** at

37.degree. for 6 h to obtain fragments of **hyaluronic**
acid. Hyaluronic acid fragments were
effective in limiting neo-intimal proliferation after angioplasty in rats.

ST **hyaluronic acid** neointimal proliferation vascular
trauma

IT Artery
(angioplasty; use of fragments of **hyaluronic acid**
to limit neo-intimal proliferation following vascular trauma)

IT Blood vessel, disease
(injury, trauma; use of fragments of **hyaluronic acid**
to limit neo-intimal proliferation following vascular trauma)

IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
(Uses)
(use of fragments of **hyaluronic acid** to limit
neo-intimal proliferation following vascular trauma)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Allelix Biopharma; WO 9501181 A 1995 HCAPLUS
(2) Bertrand; J NEUROCHEM 1985, V45(2), P434 HCAPLUS
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(5) Falk Rudolf Edgar; WO 9407505 A 1994 HCAPLUS
(6) Toole, B; US 5902795 A 1999 HCAPLUS
(7) Unilever Plc; EP 0295092 A 1988 HCAPLUS

L89 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:573625 HCAPLUS
DN 133:182973
TI Polydisaccharides for regulating **hematopoietic**
differentiation for treatment of **leukemia**
IN **Smadja-Joffe, Florence; Charrad, Rachida-sihem;**
Chomienne, Christine; Delpech, Bertrand; Jasmin,
Claude
PA Institut National de la Sante et de la Recherche Medicale (INSERM), Fr.
SO PCT Int. Appl., 57 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM A61K
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 1, 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000047163	A2	20000817	WO 2000-FR349	20000211 <--
	WO 2000047163	A3	20010426		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,
CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	FR 2789587	A1	20000818	FR 1999-1644	19990211
	AU 2000026762	A5	20000829	AU 2000-26762	20000211 <--
	EP 1150692	A2	20011107	EP 2000-905120	20000211 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

PRAI FR 1999-1644 A 19990211

WO 2000-FR349 W 20000211 <--

AB The invention concerns the use of a polymer comprising an efficient amt. of disaccharide units each consisting of a mol. with N-acetyl-D-glucosamine structure bound by a .beta. 1,3 or 1,4-glucosidic linkage to a mol. with glucuronic acid structure for producing a medicine designed to induce or stimulate the **differentiation** of **hematopoietic cells**, and **leukemic cells** in particular.

IT **antileukemic** polydisaccharide **hematopoietic differentiation**

IT Lymphocyte
(CD14- and CD16-neg.; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Glycoproteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(H-CAM (homing **cell** adhesion mol.), monoclonal antibodies to; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT **Cell** adhesion molecules
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ICAM-1 (intercellular adhesion mol. 1), monoclonal antibodies to; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Antigens
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(SSEA-1 (stage-specific embryonic antigen 1), lymphocyte lacking; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Transforming proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(degrdn. of; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Polysaccharides, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(disaccharide-based; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT **Cell differentiation**
(**inducers**; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Drug delivery systems
(injections, i.v.; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Antitumor agents
(**leukemia**; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT CD14 (antigen)
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(lymphocyte lacking; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Cytokines
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(mRNA encoding; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT CD44 (antigen)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(monoclonal antibodies to; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Antibodies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(monoclonal, anti-CD44; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT **Leukemia**
(**myeloblastic, acute**; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Phosphorylation, biological
(of proteins; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT **Cell differentiation**
Hematopoiesis
Leukemia
(polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT mRNA
RL: ANT (Analyte); ANST (Analytical study)
(polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT Drug delivery systems
(solns.; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT **163686-45-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT **9004-61-9, Hyaluronic acid**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT 288333-84-6, 1: PN: WO0047163 SEQID: 3 unclaimed DNA 288333-85-7, 2: PN: WO0047163 SEQID: 4 unclaimed DNA 288333-86-8, 3: PN: WO0047163 SEQID: 5 unclaimed DNA 288333-87-9, 4: PN: WO0047163 SEQID: 6 unclaimed DNA 288333-88-0, 5: PN: WO0047163 SEQID: 1 unclaimed DNA 288333-89-1, 6: PN: WO0047163 SEQID: 2 unclaimed DNA 288333-90-4, 7: PN: WO0047163 SEQID: 7 unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

IT 288333-91-5
RL: PRP (Properties)
(unclaimed protein sequence; polydisaccharides for regulating **hematopoietic differentiation** for treatment of **leukemia**)

L89 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:366625 HCAPLUS
DN 131:156340
TI Ligation of the CD44 adhesion molecule reverses blockage of

differentiation in human acute myeloid **leukemia**

AU **Charrad, Rachida-Sihem**; Li, Yue; **Delpech, Bertrand**;
Balitrand, Nicole; Clay, Denis; **Jasmin, Claude**; **Chomienne,**
Christine; **Smadja-Joffe, Florence**
CS Laboratoire de differenciation hematopoietique normale et leucemique,
Hopital Paul-Brousse, Villejuif, 94807, Fr.
SO Nature Medicine (New York) (1999), 5(6), 669-675
CODEN: NAMEFI; ISSN: 1078-8956
PB Nature America
DT Journal
LA English
CC 14-1 (Mammalian Pathological Biochemistry)
AB Blockage in myeloid **differentiation** characterizes acute myeloid **leukemia** (AML); the stage of the blockage defines distinct AML subtypes (AML1/2 to AML5). **Differentiation** therapy in AML has recently raised interest because the survival of AML3 patients has been greatly improved using the **differentiating** agent retinoic acid. However, this mol. is ineffective in other AML subtypes. The CD44 surface antigen, on **leukemic** blasts from most AML patients, is involved in myeloid **differentiation**. Here, the authors report that ligation of CD44 with specific anti-CD44 monoclonal antibodies or with **hyaluronan**, its natural ligand, can reverse myeloid **differentiation** blockage in AML1/2 to AML5 subtypes. The **differentiation** of AML blasts was evidenced by the ability to produce oxidative bursts, the expression of lineage antigens and cytol. modifications, all specific to normal **differentiated** myeloid **cells**. These results indicate new possibilities for the development of CD44-targeted **differentiation** therapy in the AML1/2 to AML5 subtypes.

ST CD44 adhesion mol ligation terminal **differentiation** myeloid **leukemia**

IT **Leukemia**
(**acute myelogenous**; terminal **differentiation** induction in human **acute** myeloid **leukemia cells** mediated by CD44 adhesion mol. ligation)

IT **Leukemia**
(**acute myelomonocytic**; terminal **differentiation** induction in human **acute** myeloid **leukemia cells** mediated by CD44 adhesion mol. ligation)

IT **Leukemia**
(**acute promyelocytic**; terminal **differentiation** induction in human **acute** myeloid **leukemia cells** mediated by CD44 adhesion mol. ligation)

IT **Leukemia**
(**acute**, **acute** monoblastic **leukemia**; terminal **differentiation** induction in human **acute** myeloid **leukemia cells** mediated by CD44 adhesion mol. ligation)

IT CD44 (antigen)
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(terminal **differentiation** induction in human acute myeloid **leukemia cells** mediated by CD44 adhesion mol. ligation)

IT **Cell differentiation**
(terminal; terminal **differentiation** induction in human acute myeloid **leukemia cells** mediated by CD44 adhesion mol. ligation)

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L69 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:182793 HCAPLUS
DN 126:250024
TI CD44-mediated adhesiveness of human **hematopoietic** progenitors to **hyaluronan** is modulated by cytokines
AU Legras, Stephane; Levesque, Levesque; **Charrad, Rachida**; Morimoto, Kohji; Le Bousse, Caroline; Clay, Denis; **Jasmin, Claude** ; **Smadja-Joffe, Florence**
CS Institut National de la Sante et de la Recherche Medicale U268, Hopital Paul Brousse, Villejuif, 94800, Fr.
SO Blood (1997), 89(6), 1905-1914
CODEN: BLOOAW; ISSN: 0006-4971
PB Saunders
DT Journal
LA English
CC **15-5** (Immunochemistry)
AB Adhesive interactions between CD34+ **hematopoietic** progenitor cells (HPC) and bone marrow stroma are crucial for normal **hematopoiesis**, yet their mol. bases are still poorly elucidated. We have investigated whether cell surface proteoglycan CD44 can mediate adhesion of human CD34+ HPC to immobilized **hyaluronan** (HA), an abundant glycosaminoglycan of the bone marrow extracellular matrix. Our

data show that, although CD34+ cells strongly express CD44, only 15.2 +-- 1.1% spontaneously adheres to HA. Short-term methylcellulose assay showed that HA-adherent CD34+ cells comprised granulo-monocytic and erythroid committed progenitors (19.6% +-- 2.6% and 7.3% +-- 1.1% of the input, resp.). More primitive progenitors, such as pre-colony-forming units, also adhered to HA. Moreover, we found that CD44-mediated adhesion of CD34+ cells to HA could be enhanced by phorbol 12-myristate 13-acetate (PMA), the function-activating anti-CD44 monoclonal antibody H90, and cytokines such as granulocyte-monocyte colony-stimulating factor, interleukin-3 (IL-3), and stem cell factor. Enhancement through PMA required several hours, was protein-synthesis-dependent, and was associated with an increase of CD44 cell surface expression, whereas stimulation of adhesion by H90 monoclonal antibody and cytokines was very rapid and without alteration of CD44 expression. H90-induced activation occurred at 4.degree. and lasted for at least 2 h, whereas activation by cytokines required incubation at 37.degree. and was transient. These data, which show for the first time that CD34+ HPC can directly adhere to HA via CD44, point out that this adhesive interaction to HA is a process that may also be physiol. regulated by cytokines.

ST CD44 **hyaluronan** adhesion **hematopoietic** progenitor cytokine

IT Adhesion, biological
Bone marrow
Hematopoiesis
Hematopoietic precursor cell
Signal transduction, biological
(CD44-mediated adhesiveness of human **hematopoietic** progenitors to **hyaluronan** is modulated by cytokines)

IT Interleukin 3
Stem cell factor
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(CD44-mediated adhesiveness of human **hematopoietic** progenitors to **hyaluronan** is modulated by cytokines)

IT CD44 (antigen)
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(CD44-mediated adhesiveness of human **hematopoietic** progenitors to **hyaluronan** is modulated by cytokines)

IT Glycoproteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(H-CAM (homing cell adhesion mol.); CD44-mediated adhesiveness of human **hematopoietic** progenitors to **hyaluronan** is modulated by cytokines)

IT **Hematopoietic** precursor cell
(erythroid; CD44-mediated adhesiveness of human **hematopoietic** progenitors to **hyaluronan** is modulated by cytokines)

IT **Hematopoietic** precursor cell
(granulocyte-macrophage; CD44-mediated adhesiveness of human **hematopoietic** progenitors to **hyaluronan** is modulated by cytokines)

IT 83869-56-1, Gm-csf
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(CD44-mediated adhesiveness of human **hematopoietic** progenitors to **hyaluronan** is modulated by cytokines)

IT 9004-61-9, Hyaluronan
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(CD44-mediated adhesiveness of human **hematopoietic** progenitors to **hyaluronan** is modulated by cytokines)

L7 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:675966 HCAPLUS
DN 121:275966
TI Effects of anti-CD44 monoclonal antibody on adhesion of erythroid
leukemic cells (ELM-I-1) to **hematopoietic** supportive
cells (MS-5): CD44, but not **hyaluronate**-mediated, cell--cell
adhesion
AU Sugimoto, Kenkichi; Tsurumaki, Youko; Hoshi, Hideyuki; Kadowaki, Chinatsu;
LeBousse-Kerdiles, M. C.; **Smadja-Joffe, Florence**; Mori, Kazuhiro
J.
CS Fac. Sci., Niigata Univ., Niigata, 950-21, Japan
SO Experimental Hematology (New York, NY, United States) (1994), 22(6),
488-94
CODEN: EXHMA6; ISSN: 0301-472X
DT Journal
LA English
CC 13-5 (Mammalian Biochemistry)
AB Cocultivation of erythroid **leukemic cells** (ELM-I-1)
with hemopoietic supportive **cells** (MS-5) resulted in a specific
adhesion of ELM-I-1 **cells** to MS-5 **cells**. This
phenomenon was designated as rosette formation. After induction of
differentiation of ELM-I-1 **cells**, rosette formation was
reduced, and no rosette formation was obsd. between erythrocytes and MS-5
cells. Studies on anti-adhesion mol. antibody treatment have
revealed that CD44 plays a key role in rosette formation. Expression of
CD44 on (the membrane of) ELM-I-1 **cells** was reduced after
differentiation, and no CD44 expression was detected on
erythrocytes. CD44 was also expressed on MS-5. **Hyaluronate** is
known as the ligand of CD44, but neither **hyaluronidase** treatment
nor addn. of excess **hyaluronate** to the assay system affected
rosette formation. These data indicate that **hyaluronate** is not
responsible for rosette formation. Anti-CD44 antibody (KM81), which
recognized the **hyaluronate** binding site of CD44, inhibited
rosette formation. But other monoclonal antibodies against different
epitopes except for the **hyaluronate** binding site, even those
against CD44's **hyaluronate** binding site, did not inhibit rosette
formation. Thus, rosette formation between MS-5 **cells** and
ELM-I-1 **cells** is mediated by CD44 but not by the
hyaluronate binding site of CD44.
ST erythropoiesis CD44 antigen **hyaluronate**; erythroid progenitor
cell adhesion CD44
IT Erythropoiesis
(CD44 antigen mediation of precursor cell-stromal cell adhesion in,
hyaluronate-independent)
IT Antigens
RL: BIOL (Biological study)
(CD44, erythroid progenitor cell adhesion to stromal supportive cells
mediation by, **hyaluronate**-independent)
IT Adhesion
(bio-, of erythroid precursor cells to stromal supportive cells, CD44
antigen mediation of, **hyaluronate**-independent)
IT **9004-61-9, Hyaluronate**
RL: BIOL (Biological study)
(CD44 antigen mediation of erythroid progenitor cell adhesion to
stromal supportive cells in relation to)

L7 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:189647 HCAPLUS
DN 120:189647
TI CD44 mediates **hyaluronan** binding by human myeloid KG1A and KG1
cells
AU Morimoto, K.; Robin, E.; Le Bousse-Kerdiles, M. C.; Li, Y.; Clay, D.;
Jasmin, C.; Smadja-Joffe, F.

CS Hop. Paul Brousse, Villejuif, Fr.
SO Blood (1994), 83(3), 657-62
CODEN: BLOOAW; ISSN: 0006-4971
DT Journal
LA English
CC 15-10 (Immunochemistry)
AB **Hyaluronan**-binding function of the CD44 mol. has not been so far detected in myeloid cells. To study early stages of primitive myeloid cells, the authors investigated the **hyaluronan**-binding function of the CD44 mol. from three myeloid cell lines: KG1a, KG1, and HL60. The KG1a and KG1 cells express the CD34 antigen (marker of the **hematopoietic** stem cells and HL60 cells do not; accordingly KG1a and KG1 cells are generally considered as the most primitive and HL60 cells as the most mature of these cell lines. Measurement of cell adhesion to **hyaluronan**-coated surfaces (using 51Cr-labeled cells) and of aggregate formation in **hyaluronan**-contg. solns., showed that 45% of KG1 cells and 22% to 24% of KG1a spontaneously bind to **hyaluronan**, whereas HL60 cells do not either spontaneously or after treatment with a phorbol ester. **Hyaluronan** binding by KG1a and KG1 cells is mediated by CD44, because it is specifically abolished by monoclonal antibodies (MoAbs) to this mol. The binding might require phosphorylation by protein kinase C and perhaps also by protein kinase A, because it is prevented by staurosporine, which inhibits these enzymes. TPA which activates protein kinase C, rises to 80% the proportion of KG1 and KG1a cells that bind **hyaluronan**; this activation is dependent on protein synthesis, for it is abrogated by cyclophosphamide, a protein synthesis inhibitor. Binding of TPA-treated cells to **hyaluronan** is only partly inhibited by MoAb to CD44: this suggests that TPA may induce synthesis of a **hyaluronan**-binding protein distinct from CD44. Considering the abundance of **hyaluronan** in human bone marrow, these results suggest that CD44 may be involved in mediating precursor-stroma interaction.
ST CD44 antigen **hyaluronan** binding myeloid cell
IT Antigens
RL: BIOL (Biological study)
(CD44, in **hyaluronan** binding to myeloid cells)
IT **Hematopoietic** precursor cell
(myeloid, **hyaluronan** binding to, CD44 antigen in mediation of)
IT **9004-61-9, Hyaluronan**
RL: BIOL (Biological study)
(binding of, to myeloid cells, CD44 antigen in mediation of)
IT 16561-29-8, TPA
RL: BIOL (Biological study)
(**hyaluronan** binding to myeloid cells enhancement by)
IT 141436-78-4, Protein kinase C
RL: BIOL (Biological study)
(**hyaluronan** binding to myeloid cells in relation to)

L89 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2003 ACS
AN 1992:488540 HCAPLUS
DN 117:88540
TI Production of a **hyaluronan**-binding glycoprotein by human blood monocytes. Its use as a marker in myeloid **leukemia**
AU **Delpech, Bertrand**; Girard, Nicole; Vannier, Jean Pierre; Tilly, Herve; Piguet, Hubert
CS Lab. Oncol. Mol., Cent. Henri-Becquerel, Rouen, 76038, Fr.
SO Comptes Rendus de l'Academie des Sciences, Serie III: Sciences de la Vie (1992), 314(13), 879-85
CODEN: CRASEV; ISSN: 0764-4469
DT Journal
LA French
CC 15-8 (Immunochemistry)

Section cross-reference(s): 14

AB A **hyaluronan**-binding protein fraction was isolated by affinity chromatog. of peripheral human blood mononuclear cell culture medium through immobilized **hyaluronan**. The presence of a **hyaluronan**-binding protein similar to human brain **hyaluronectin** was demonstrated by (i) the ELISA method on **hyaluronan**-coated plastic plates using anti-**hyaluronectin** antibodies, (ii) the lowering of the elution vol. of the protein on Sig. gel chromatog. in the presence of **hyaluronan**, (iii) the extinction of the reaction to human brain **hyaluronectin** when antibodies were absorbed out with monocyte **hyaluronectin**, (iv) Western blotting with polyclonal and monoclonal anti-**hyaluronectin** antibodies. The **hyaluronectin**-producing cells were adherent (1.5 min., 37.degree.) to plastic, esterase (+) and CD14 (+) cells, and had the morphol. of monocytes. The protein expression was investigated in **leukemic** cells by means of the immunocytochem. method. **Hyaluronectin** expression was restricted to 4/12 of M4 and M5 types of acute myeloid **leukemias**. Other myeloid **leukemia** and acute lymphoblastic **leukemia** cells were neg. Thus, **hyaluronectin** can be produced in a free form in the absence of **hyaluronan**, by human peripheral blood monocytes. This supports the hypothesis that the expression of **hyaluronectin** in tumor stroma could be due, at least in part, to inflammatory cells of the tumor. The expression of the protein by M4 and M5 acute myeloid **leukemia** cells suggests that **hyaluronectin** could be synthesized by immature cells of the monocytic lineage as well as by mature monocytes. An abridged English version is included.

ST **hyaluronan** binding glycoprotein monocyte **leukemia**; myeloid **leukemia** **hyaluronectin**

IT Monocyte
(**hyaluronan**-binding by glycoprotein of human)

IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(**hyaluronectins**, of monocyte, in health and human myeloid **leukemia**)

IT **Leukemia**
(**myelogenous**, **hyaluronan**-binding glycoprotein of humans with)

IT **9004-61-9**, **Hyaluronan**
RL: BIOL (Biological study)
(glycoproteins binding, of human monocyte in health and myeloid **leukemia**)

=> fil medline
FILE 'MEDLINE' ENTERED AT 14:50:46 ON 21 JAN 2003

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=> d all tot l117

L117 ANSWER 1 OF 9 MEDLINE
AN 2000433828 MEDLINE
IN 20321546 PubMed ID: 10863828

TI Synovial fluids from patients with rheumatoid arthritis induce the **differentiation** of human promyelocytic **leukemia** cell line HL 60.
AU Kojima H
CS Department of Internal Medicine, Teikyo University, School of Medicine.
SO NIHON RINSHO MENEKI GAKKAI KAISHI, [2000 Apr] 23 (2) 103-13.
Journal code: 9503992. ISSN: 0911-4300.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA Japanese
FS Priority Journals
EM 200009
ED Entered STN: 20000928
Last Updated on STN: 20000928
Entered Medline: 20000921
AB Bone marrow abnormalities have been found to play a role in the pathogenesis of rheumatoid arthritis (RA). Recent studies have also confirmed the presence of **undifferentiated hematopoietic** progenitor cells as well as the expression of stem cell factor in the synovial membranes in RA. The present study investigates whether RA synovial fluids contain factors that can induce **differentiation** of CD 14 positive/HLA-DR positive cells from **undifferentiated hematopoietic** cells. Synovial fluid specimens from 18 patients with RA and from 10 control patients, including patients with osteoarthritis and Behcet's disease, were studied. Human promyelocytic **leukemia** cell line HL 60 (5 x 10(4)/well) were cultured in the presence or absence of the synovial fluids for 5 days, after which the expression of CD 14 and HLA-DR was examined by flow cytometry. The induction of **differentiation** of CD 14 positive/HLA-DR positive cells or HLA-DR positive cells from HL 60 cells was significantly enhanced more in the presence of synovial fluids from RA patients than in the presence of those of control patients. However, the sera from the RA patients could not induce the **differentiation** of CD 14 positive/HLA-DR positive cells or HLA-DR positive cells from HL 60 cells. Most cytokines found in RA synovial fluid could not induce the **differentiation** of HL 60 cells. Of note, treatment of synovial fluids with **hyaluronidase** significantly decreased or abrogated their capacity to induce the **differentiation** of HLA-DR positive cells from HL 60. There was no significant difference in the concentration of **hyaluronic acid** in the synovial fluid between the RA patients and the control patients. These results indicate that there are factors that can induce **differentiation** of HLA-DR positive cells from **undifferentiated hematopoietic** cells in the synovial fluid of RA. The data also suggest that such **differentiation** factors might be related with qualitative abnormality of **hyaluronic acid.**
CT Check Tags: Human
Antigens, CD14: AN, analysis
*Arthritis, Rheumatoid: ME, metabolism
***Cell Differentiation: DE, drug effects**
English Abstract
HL-60 Cells
HLA-DR Antigens: AN, analysis
Hyaluronic Acid: AN, analysis
*Synovial Fluid: CH, chemistry
RN **9004-61-9 (Hyaluronic Acid)**
CN 0 (Antigens, CD14); 0 (HLA-DR Antigens)

L117 ANSWER 2 OF 9 MEDLINE
AN 1999297916 MEDLINE
DN 99297916 PubMed ID: 10371570
TI Ligation of the CD44 adhesion molecule reverses blockade of **differentiation** in human acute myeloid **leukemia.**

CM Comment in: Nat Med. 1999 Jun;5(6):619-21
AU **Charrad R S**; Li Y; **Delpech B**; Balitrand N; Clay D; **Jasmin C**; **Chomienne C**; **Smadja-Joffe F**
CS Inserm U268, Laboratoire de differenciation hematopoietique normale et leucemique, Hopital Paul-Brousse, Villejuif, France.
SO NATURE MEDICINE, (1999 Jun) 5 (6) 669-76.
Journal code: 9502015. ISSN: 1078-8956.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199907
ED Entered STN: 19990714
Last Updated on STN: 19990714
Entered Medline: 19990701
AB Blockage in myeloid **differentiation** characterizes acute myeloid **leukemia** (**AML**); the stage of the blockage defines distinct **AML** subtypes (**AML1**/2 to **AML5**). **Differentiation** therapy in **AML** has recently raised interest because the survival of **AML3** patients has been greatly improved using the **differentiating** agent retinoic acid. However, this molecule is ineffective in other **AML** subtypes. The CD44 surface antigen, on **leukemic** blasts from most **AML** patients, is involved in myeloid **differentiation**. Here, we report that ligation of CD44 with specific anti-CD44 monoclonal antibodies or with **hyaluronan**, its natural ligand, can reverse myeloid **differentiation** blockage in **AML1**/2 to **AML5** subtypes. The **differentiation** of **AML** blasts was evidenced by the ability to produce oxidative bursts, the expression of lineage antigens and cytological modifications, all specific to normal **differentiated** myeloid cells. These results indicate new possibilities for the development of CD44-targeted **differentiation** therapy in the **AML1**/2 to **AML5** subtypes.
CT Check Tags: Human; Support, Non-U.S. Gov't
Acute Disease
Antibodies, Monoclonal: ME, metabolism
Antibodies, Monoclonal: PD, pharmacology
Antigens, CD14: ME, metabolism
Antigens, CD15: ME, metabolism
Antigens, CD44: DE, drug effects
Antigens, CD44: IM, immunology
*Antigens, CD44: ME, metabolism
Bone Marrow: ME, metabolism
Bone Marrow: PA, pathology
***Cell Differentiation: DE, drug effects**
Dose-Response Relationship, Drug
Granulocyte Colony-Stimulating Factor: DE, drug effects
Granulocyte Colony-Stimulating Factor: GE, genetics
Granulocytes: DE, drug effects
Granulocytes: ME, metabolism
Granulocytes: PA, pathology
Hyaluronic Acid: CH, chemistry
Hyaluronic Acid: ME, metabolism
Hyaluronic Acid: PD, pharmacology
Leukemia, Myeloid: DT, drug therapy
***Leukemia, Myeloid: ME, metabolism**
***Leukemia, Myeloid: PA, pathology**
Macrophage Colony-Stimulating Factor: DE, drug effects
Macrophage Colony-Stimulating Factor: GE, genetics
Monocytes: DE, drug effects
Monocytes: ME, metabolism
Monocytes: PA, pathology
Neoplasm Proteins: DE, drug effects

Neoplasm Proteins: ME, metabolism
Oncogene Proteins, Fusion: DE, drug effects
Oncogene Proteins, Fusion: ME, metabolism
RNA, Messenger: AN, analysis
Respiratory Burst
Tretinoin: PD, pharmacology
Tumor Cells, Cultured: DE, drug effects
Tumor Cells, Cultured: IM, immunology
Tumor Cells, Cultured: ME, metabolism
RN 143011-72-7 (Granulocyte Colony-Stimulating Factor); 302-79-4 (Tretinoin); 81627-83-0 (Macrophage Colony-Stimulating Factor); 9004-61-9 (Hyaluronic Acid)
CN 0 (Antibodies, Monoclonal); 0 (Antigens, CD14); 0 (Antigens, CD15); 0 (Antigens, CD44); 0 (Neoplasm Proteins); 0 (Oncogene Proteins, Fusion); 0 (PML-RARalpha protein); 0 (RNA, Messenger)

L117 ANSWER 3 OF 9 MEDLINE
AN 1999297906 MEDLINE
DN 99297906 PubMed ID: 10371496
TI Blasting away **leukemia**.
CM Comment on: Nat Med. 1999 Jun;5(6):669-76
AU Kincade P W
SO NATURE MEDICINE, (1999 Jun) 5 (6) 619-20.
Journal code: 9502015. ISSN: 1078-8956.
CY United States
DT Commentary
News Announcement
LA English
FS Priority Journals
EM 199907
ED Entered STN: 19990714
Last Updated on STN: 19990714
Entered Medline: 19990701
CT Check Tags: Animal; Human
Acute Disease
*Antibodies, Monoclonal: PD, pharmacology
Antigens, CD44: DE, drug effects
*Antigens, CD44: ME, metabolism
Cell Differentiation
Cytokines: ME, metabolism
Epitopes
Hyaluronic Acid: PD, pharmacology
***Leukemia, Myeloid: DT, drug therapy**
***Leukemia, Myeloid: IM, immunology**
Leukemia, Myeloid: PA, pathology
Monocytes: DE, drug effects
Monocytes: ME, metabolism
RN **9004-61-9 (Hyaluronic Acid)**
CN 0 (Antibodies, Monoclonal); 0 (Antigens, CD44); 0 (Cytokines); 0 (Epitopes)

L117 ANSWER 4 OF 9 MEDLINE
AN 1998302381 MEDLINE
DN 98302381 PubMed ID: 9638525
TI Effects of **hyaluronan** viscous materials on cell membrane electrical properties.
AU Santini M T; Cametti C; Formisano G; Flamma F; Perilli R
CS Laboratorio di Ultrastrutture, Istituto Superiore di Sanita, Rome, Italy.
SO JOURNAL OF BIOMEDICAL MATERIALS RESEARCH, (1998 Aug) 41 (2) 211-8.
Journal code: 0112726. ISSN: 0021-9304.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English

FS Priority Journals
EM 199610
ED Entered STN: 19961029
Last Updated on STN: 19961029
Entered Medline: 19961018
AB **Hyaluronan** (**hyaluronic acid** (HA)) has been implicated in various cellular processes such as proliferation, adhesion, migration, and **differentiation**. The secondary and tertiary structures of HA give it very important and unique viscoelastic properties. HA-composed materials are currently used intraocularly during ophthalmological surgery to facilitate surgical procedures and prevent tissue damage. To examine the effects of three viscous biomaterials composed of **hyaluronan** (Healon, IAL, and Biolon) used in ophthalmological surgery, the membrane electrical properties of the **erythroleukemic** K562 cell line exposed to these materials were investigated. Membrane conductivity, membrane permittivity, and the conductivity of the cytosol were evaluated using dielectric relaxation measurements in the radiofrequency range and fitting the experimental results to the general equations of the Maxwell-Wagner effect. The results demonstrate that while membrane permittivity and the conductivity of the cytosol are not significantly altered, the membrane conductivity of K562 cells exposed to all three biomaterials increases substantially and in a time-dependent manner with respect to untreated cells. These observations seem to indicate that **hyaluronan** perturbs ionic transport while it does not vary the type, quantity, or distribution of membrane components. In addition, the variations induced by these substances on the cell membrane are not dependent upon the molecular weight or on the biological origin of **hyaluronan**. These results may aid in elucidating the mechanisms involved in **hyaluronan**/cell membrane interaction and thus may provide a deeper understanding of the complications related to their use in ophthalmological surgery.
CT Check Tags: Comparative Study; Human
*Cell Membrane: DE, drug effects
Cell Membrane: PH, physiology
Cell Size
Cytosol: DE, drug effects
Cytosol: PH, physiology
Elasticity
Electric Conductivity
***Hyaluronic Acid: PD, pharmacology**
Ion Transport: DE, drug effects
Leukemia, Erythroblastic, Acute: PA, pathology
Leukemia, Myeloid, Philadelphia-Positive: PA, pathology
Lubrication
Membrane Potentials: DE, drug effects
Molecular Weight
Time Factors
Tumor Cells, Cultured
Viscosity
RN **9004-61-9 (Hyaluronic Acid)**

L117 ANSWER 5 OF 9 MEDLINE
AN 97013283 MEDLINE
DN 97013283 PubMed ID: 9172805
TI CD44 and **hyaluronan** binding by human myeloid cells.
AU **Smadja-Joffe F**; Legras S; Girard N; Li Y; **Delpech B**; Bloget F; Morimoto K; Le Bousse-Kerdiles C; Clay D; **Jasmin C**; Levesque J P
CS Unite d'Oncogenese Appliquee, Inserm U268, Hopital Paul Brousse, Villejuif, France.
SO LEUKEMIA AND LYMPHOMA, (1996 May) 21 (5-6) 417-26, color plates following 528. Ref: 112
Journal code: 9007422. ISSN: 1042-8194.

CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
PB Karger
RN ...
ED Entered STN: 19970612
Last Updated on STN: 19970612
Entered Medline: 19970605

AB The CD44 cell surface molecule has been shown to be the principal cell surface receptor for **hyaluronan** (or **hyaluronic acid**), a glycosaminoglycan component of marrow extracellular matrix. However, its affinity for **hyaluronan** is not constitutive, since it depends on the cell type, the stage of **differentiation** and on activation by external stimuli including certain anti-CD44 antibodies and phorbol esters. Except for a few lymphoid cell lines, **hematopoietic** cells do not spontaneously bind **hyaluronan** and initial studies reported that, contrary to lymphocytes, myeloid cells could not be activated to bind **hyaluronan**. Because CD44 plays an important role in the initial phases of **hematopoiesis**, as shown by experiments using blocking anti-CD44 monoclonal antibodies, its capacity to mediate adhesion of primitive myeloid cells has been investigated. It was found that CD44 could mediate spontaneous adhesion to **hyaluronan** of immature myeloid cell lines KG1, KG1a, and TF1, which serve as a model for **hematopoietic** progenitors. However, despite expressing high amounts of CD44, no more than 15% of bone marrow progenitors could adhere to **hyaluronan**. Recent experiments have shown that a very important feature of CD44 is its capacity to be rapidly activated by certain antibodies and cytokines (GM-CSF and KL) from a low affinity to a high affinity state for **hyaluronan**. These data shed light on striking similarities in the functional regulation of CD44 and of the two integrin receptors VLA-4 (a4b1), and VLA-5 (a5b1), which are also expressed on **hematopoietic** progenitors. The relevance of these data to the regulation of normal **hematopoiesis** and mobilization of CD34+ progenitors in the view of cell grafting is analyzed. In addition, we show that in idiopathic myelofibrosis, the amount of **hyaluronan** is markedly increased in the extracellular matrix from the myeloproliferative spleen. Considering that the production of cytokines is enhanced in this disease, we discuss whether CD44-**hyaluronan** interaction may have a role in the pathophysiology of this myeloproliferative syndrome.

CT Check Tags: Human
Antibodies, Monoclonal: IM, immunology
Antibodies, Monoclonal: PD, pharmacology
Antigens, CD44: CH, chemistry
Antigens, CD44: IM, immunology
*Antigens, CD44: ME, metabolism
Carbohydrate Conformation
Carbohydrate Sequence
Cell Adhesion: DE, drug effects
Cell Movement
Extracellular Matrix: ME, metabolism
Hematopoiesis: PH, physiology
Hematopoietic Cell Growth Factors: PH, physiology
Hematopoietic Stem Cells: CY, cytology
***Hematopoietic Stem Cells: ME, metabolism**
Hyaluronic Acid: CH, chemistry
***Hyaluronic Acid: ME, metabolism**
Integrins: PH, physiology
Leukemia: PA, pathology
Molecular Sequence Data

Myelofibrosis: ME, metabolism
Myelofibrosis: PA, pathology
Protein Binding
Receptors, Fibronectin: PH, physiology
Receptors, Lymphocyte Homing: PH, physiology
Spleen: ME, metabolism
Spleen: PA, pathology
Tumor Cells, Cultured
RN 9004-61-9 (Hyaluronic Acid)
CN ... (Antibodies, Monoclonal) ; ... (Antigens, CD44) ; ... **Hematopoietic** ... Cell Growth Factors ; ... (Integrins ; ... (Receptors, Fibronectin ; ... (Receptors, Lymphocyte Homing) ; ... Integrin alpha4beta1

L11 ANSWER 6 OF 9 MEDLINE
AN 94380046 MEDLINE
DN 94380046 PubMed ID: 8093047
TI Cell surface antigen CD38 identified as ecto-enzyme of NAD glycohydrolase has **hyaluronate**-binding activity.
AU Nishina H; Inageda K; Takahashi K; Hoshino S; Ikeda K; Katada T
CS Department of Life Science, Tokyo Institute of Technology, Yokohama, Japan.
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1994 Sep 15) 203 (2) 1318-23.
Journal code: 0372516. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199410
ED Entered STN: 19941031
Last Updated on STN: 20021218
Entered Medline: 19941018
AB An ecto-enzyme of NAD glycohydrolase induced by retinoic acid in human **leukemic** HL-60 cells is attributed to the molecule of leukocyte cell surface antigen CD38 (Kontani, K., et al. (1993) J. Biol. Chem. 268, 16895-16898). The cell surface antigen has an amino acid sequence homologous to Aplysia ADP-ribosyl cyclase that catalyzes the conversion of NAD to cyclic ADP-ribose with a calcium-mobilizing activity. A putative **hyaluronate** (HA)-binding motif which has recently been identified in CD44 antigen existed in the extracellular domain and intracellular amino terminus of CD38 antigen. CD38 antigen was indeed capable of binding to HA in a manner dependent on ionic strength. By contrast, no binding activity was found in Aplysia ADP-ribosyl cyclase. Thus CD38 antigen, like CD44 antigen characterized as a HA-receptor (or binding) protein, may function as an adhesion molecule.
CT Check Tags: Animal; Human; Support, Non-U.S. Gov't
ADP-ribosyl Cyclase
Adenosine Diphosphate Ribose: ME, metabolism
Amino Acid Sequence
***Antigens, Differentiation: ME, metabolism**
Aplysia: EN, enzymology
Binding Sites
Chromatography, Affinity
Enzyme Induction: DE, drug effects
***Hyaluronic Acid: ME, metabolism**
Mice
Molecular Sequence Data
N-glycosyl Hydrolases: CH, chemistry
N-glycosyl Hydrolases: ME, metabolism
NAD: ME, metabolism
*NAD+ Nucleosidase: ME, metabolism
Sequence Homology
Tretinoin: PD, pharmacology

Tumor Cells, Cultured
RN 20761-80-5 (Adenosine Diphosphate Ribose ; 3.2.2.5 Tretinoin ; 53-84-9 (NAD ; **9004-61-9 (Hyaluronic Acid)**
CN 1 Antigens, **Differentiation** ; EC 3.2.2.- N-glycosyl Hydrolases ; EC 2.4.2.30 ADP-ribosyl Cyclase ; EC 3.2.2.5 NAD+ Nucleosidase

L117 ANSWER 7 OF 9 MEDLINE
AN 94244727 MEDLINE
DN 94244727 PubMed ID: 7514542
TI Effects of anti-CD44 monoclonal antibody on adhesion of erythroid **leukemic** cells (ELM-I-1) to **hematopoietic** supportive cells (MS-5): CD44, but not **hyaluronate**-mediated, cell-cell adhesion.
AU Sugimoto K; Tsurumaki Y; Hoshi H; Kadowaki S; LeBousse-Kerdiles M C; **Smadja-Joffe F**; Mori K J
CS Department of Physiology and Biochemistry, Faculty of Science, Niigata University, Japan.
SO EXPERIMENTAL HEMATOLOGY, (1994 Jun) 22 (6) 486-94.
Journal code: 0402313. ISSN: 0301-472X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199406
ED Entered STN: 19940629
Last Updated on STN: 19960129
Entered Medline: 19940623
AB Cocultivation of erythroid **leukemic** cells (ELM-I-1) with hemopoietic supportive cells (MS-5) resulted in a specific adhesion of ELM-I-1 cells to MS-5 cells. This phenomenon was designated as rosette formation. After induction of **differentiation** of ELM-I-1 cells, rosette formation was reduced, and no rosette formation was observed between erythrocytes and MS-5 cells. Studies on anti-adhesion molecule antibody treatment have revealed that CD44 plays a key role in rosette formation. Expression of CD44 on (the membrane of) ELM-I-1 cells was reduced after **differentiation**, and no CD44 expression was detected on erythrocytes. CD44 was also expressed on MS-5. **Hyaluronate** is known as the ligand of CD44, but neither **hyaluronidase** treatment nor addition of excess **hyaluronate** to the assay system affected rosette formation. These data indicate that **hyaluronate** is not responsible for rosette formation. Anti-CD44 antibody (KM81), which recognized the **hyaluronate** binding site of CD44, inhibited rosette formation. But other monoclonal antibodies against different epitopes except for the **hyaluronate** binding site, even those against CD44's **hyaluronate** binding site, did not inhibit rosette formation. Thus, rosette formation between MS-5 cells and ELM-I-1 cells is mediated by CD44 but not by the **hyaluronate** binding site of CD44.
CT Check Tags: Animal; Human; In Vitro; Support, Non-U.S. Gov't
Antibodies, Monoclonal: IM, immunology
Antigens, CD44
*Carrier Proteins: PH, physiology
Cell Adhesion
Cell Line
***Hematopoiesis**
Hyaluronic Acid: PH, physiology
***Leukemia, Erythroblastic, Acute: PA, pathology**
Ligands
Mice
*Receptors, Cell Surface: PH, physiology
*Receptors, Lymphocyte Homing: PH, physiology
Rosette Formation

RN 9004-61-9 (Hyaluronic Acid)
CN 0 (Antibodies, Monoclonal); 0 (Antigens, CD44); 0 (Carrier Proteins); 0 (Ligands); 0 (Receptors, Cell Surface); 0 (Receptors, Lymphocyte Homing)

L11 ANSWER 8 OF 9 MEDLINE
AN 93136433 MEDLINE
DN 93136433 PubMed ID: 7678516
TI Expression and function of a receptor for **hyaluronan**-mediated motility on normal and malignant B lymphocytes.
AU Turley E A; Belch A J; Poppema S; Pilarski L M
CS Manitoba Institute for Cell Biology, University of Manitoba, Canada.
NC CA51540 (NCI)
SO BLOOD, (1993 Jan 15) 81 (2) 446-53.
Journal code: 7603509. ISSN: 0006-4971.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199302
ED Entered STN: 19930312
Last Updated on STN: 19970203
Entered Medline: 19930223
AB Migration through extracellular matrix is fundamental to malignant invasion. A receptor for **hyaluronan**-mediated motility (RHAMM) has previously been shown to play a fundamental role in locomotion of ras-transformed cells as well as functioning in signal transduction. Expression of RHAMM was characterized on B lymphocytes from normal and malignant lymphoid tissues using multiparameter phenotypic immunofluorescence analysis as well as functional analysis of its role in locomotion of malignant hairy cell **leukemia** B cells. RHAMM is not detectable on most normal B cells located in blood, spleen, or lymph node, but it is detectable on bone marrow and thymic B cells. Among B-cell malignancies, it is expressed on most terminally **differentiated** B cells from multiple myeloma bone marrows, is present on a subset of non-Hodgkin's lymphomas, and is absent on B chronic lymphocytic **leukemia**. Activation of peripheral blood B cells by Staphylococcus A cowan (SAC), but not by pokeweed mitogen, induced transient expression of RHAMM at day 3 of culture, suggesting RHAMM may be used by antigen-activated normal B cells. For malignant cells, expression of RHAMM increased on long-term culture of bone marrow plasma cells from multiple myeloma patients, indicating prolonged expression in contrast to the transient expression on SAC-activated normal B cells. Intriguingly, RHAMM was expressed on hairy **leukemia** cells located in spleen but absent from those in peripheral blood of the same patient. RHAMM, as expressed on splenic hairy cells, was a 58-Kd molecule that binds **hyaluronan**, is encoded by a 5.2-kb messenger RNA, and participates in locomotion by these cells. Hairy cells locomoted in response to **hyaluronan** at 4 mu per minute. Monoclonal antibody to RHAMM inhibited this locomotion almost completely as detected using video time-lapse cinemicrography. These observations are consistent with a role for RHAMM in malignant invasion and metastatic growth.
CT Check Tags: Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Antigens, CD44
B-Lymphocytes: DE, drug effects
B-Lymphocytes: PA, pathology
*B-Lymphocytes: PH, physiology
Carrier Proteins: AN, analysis
*Carrier Proteins: ME, metabolism
*Cell Movement: DE, drug effects
Cells, Cultured
***Hyaluronic Acid: PD, pharmacology**
Leukemia, B-Cell: IM, immunology
***Leukemia, B-Cell: PP, physiopathology**

Leukemia, Hairy Cell: IM, immunology
*Leukemia, Hairy Cell: PP, physiopathology
Lymphoid Tissue: IM, immunology
Lymphoid Tissue: PH, physiology
Lymphoma: IM, immunology
*Lymphoma: PP, physiopathology
Multiple Myeloma: IM, immunology
*Multiple Myeloma: PP, physiopathology
Receptors, Cell Surface: AN, analysis
*Receptors, Cell Surface: ME, metabolism
Reference Values
Tumor Cells, Cultured
RN 9004-61-9 (Hyaluronic Acid)
CN 0 (Antigens, CD44); 0 (Carrier Proteins); 0 (Receptors, Cell Surface

L11? ANSWER 9 OF 9 MEDLINE
AN 93022881 MEDLINE
DN 93022881 PubMed ID: 1328775
TI Increased synthesis of extracellular spleen glycosaminoglycans in an experimental myeloproliferative syndrome.
AU **Smadja-Joffe F**; Moczar M; Le Bousse-Kerdiles C; **Delpech B**; Leibovitch M P; Dufour F; **Jasmin C**
CS Unite d'Oncogenese Appliquee, INSERM U268, Villejuif, France.
SO LEUKEMIA, (1992 Oct) 6 (10) 1011-9.
Journal code: 8704895. ISSN: 0887-6924.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199211
ED Entered STN: 19930122
Last Updated on STN: 19970203
Entered Medline: 19921116
AB The changes occurring in the **hematopoietic** extracellular matrix in an experimental myeloproliferative syndrome were explored by comparing the glycosaminoglycan (GAG) composition of normal mouse spleens and spleens infected with myeloproliferative sarcoma virus (MPSV). Large quantities of **hyaluronate** and of sulfated GAGs accumulated in the extracellular matrix of infected spleens, as shown by histoimmunoassay and alcian blue staining, respectively. The splenic GAGs were either labeled with 35S-sulfate injected in vivo or unlabeled. The spleens were fractionated to separate **hematopoietic** cells from the stromal component containing extracellular matrix material and fibroblasts, and the GAGs were extracted from each fraction. Specific degradative treatments and electrophoresis indicated that sulfated GAGs were mostly chondroitin sulfate and heparan sulfate. Three hours after in vivo injection of 35S-sulfate, the amount of 35S-GAGs was increased approximately fivefold per mg stromal proteins. The bulk of these 35S-GAGs (70%) was recovered in the stromal fraction. The higher amount of sulfated GAGs in **leukemic** spleen was due both to the presence of more producer cells (infected fibroblasts and **hematopoietic** cells) and to a stimulation of GAG synthesis per cell, as evidenced 35S-labeling in in vitro experiments. Chondroitin sulfate was the main sulfated GAG present in the culture medium of both **hematopoietic** and fibroblastic cells and in the pericellular material released by trypsin from fibroblastic cells. High amounts of chondroitin sulfate, which has a possible role in the detachment of **hematopoietic** cells from the stromal cells, may favour the release of **hematopoietic** cells from the spleen into the peripheral blood. Heparan sulfate was produced by fibroblastic cells and it was principally present in their pericellular material. Considering the capacity of heparan sulfate to retain cytokines, as demonstrated by others in vitro, large amounts of heparan sulfate may result in the retention of large amounts of the cytokines, which

production is enhanced in the infected spleen. This phenomenon may contribute to promote the **hematopoietic** stem cell proliferation characteristic of the MPSV-induced myeloproliferative disease.
CT Check Tags: Animal; Support, Non-U.S. Gov't
DNA, Viral: AN, analysis
*Extracellular Matrix: ME, metabolism
***Glycosaminoglycans: BI, biosynthesis**
Hematopoiesis
Hyaluronic Acid: ME, metabolism
Mice
Mice, Inbred DBA
*Myeloproliferative Disorders: ME, metabolism
Proteins: ME, metabolism
Proviruses: CH, chemistry
Sarcoma Viruses, Murine
Sarcoma, Experimental: ME, metabolism
Spleen: ME, metabolism
Sulfates: ME, metabolism
RN **9004-61-9 (Hyaluronic Acid)**
CN 0 (DNA, Viral); 0 (Glycosaminoglycans); 0 (Proteins); 0 (Sulfates)

=> fil cancer
FILE 'CANCERLIT' ENTERED AT 14:58:27 ON 21 JAN 2003

FILE COVERS 1963 TO 15 Nov 2002 (20021115/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all tot l127

L127 ANSWER 1 OF 2 CANCERLIT
AN 95609058 CANCERLIT
DN 95609058
TI CD44: A signaling molecule for **differentiation** of HL60 myeloid **leukemic** cell line (Meeting abstract).
AU Li Y; Legras S; Robin E; Le Bousse-Kerdiles C; Jasmin C; Smadja-Joffe F
CS INSERM U 268, Hop. P. Brousse, 94800-Villejuif, France.
SO Proc Annu Meet Am Assoc Cancer Res, (1995) 36 A1281.
ISSN: 0197-016X.
DT (MEETING ABSTRACTS)
LA English
FS Institute for Cell and Developmental Biology
EM 199508
ED Entered STN: 19950809
Last Updated on STN: 19970509
AB CD44 is a transmembrane glycoprotein strongly expressed on primitive myeloid cells. It has been shown that CD44 plays an important role in myelopoiesis, but its functions remain largely unknown. We have investigated the role of CD44 in myeloid **differentiation** of HL60 **leukemia** cells. These cells are able to **differentiate** in granulocytic and macrophage cells, when they are treated with variety of chemical inducers. HL60 cells do not bind **hyaluronan**, the best characterized ligand of CD44. Therefore, we mimicked binding of another hypothetical ligand using MoAbs to CD44. We found that two MoAbs, H90 and 11P12, which map to the same locus, induce **differentiation** of HL60 cells. This **differentiation** was assessed by the increased

expression of the **differentiation** antigen CD15, the acquisition of nitroblue tetrazolium reducing ability and cytological changes (disappearance of nucleoli, decreased nucleocytoplasmic ratio). **Differentiation** was detectable after 4 days of incubation with the MoAbs. Furthermore, cytofluorimetric analysis and semiquantitative RT-PCR show that, like in normal myelopoiesis, CD44 synthesis was decreased. The CD44 mediated **differentiation** might require phosphorylation by protein kinase C (PKC), because it is prevented by the inhibitor GF109203X (Glaxo), which is a potent and specific inhibitor of PKC. These data suggest that CD44 may be activated by another ligand than **hyaluronan** and that this activation might contribute to induce myeloid **differentiation**.
CN 9 (Membrane Glycoproteins); EC 2.7.1.- (Protein Kinase C)

L11 ANSWER 2 OF 2 CANCERLIT
AN 79607981 CANCERLIT
DN 79607981
TI EARLY DECREASE IN **HYALURONIDASE**-SENSITIVE CELL SURFACE CHARGE DURING THE **DIFFERENTIATION** OF FRIEND **ERYTHROLEUKEMIC** CELLS BY DIMETHYL SULFOXIDE.
AU Sato C; Kojima K; Nishizawa K; Ikawa Y
CS Lab. Experimental Radiology, Aichi Cancer Center, Res. Inst., Chikusa-ku, Nagoya 464, Japan.
SO Cancer Res, (1979) 39 (3) 1113-1117.
ISSN: 0008-5472.
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Institute for Cell and Developmental Biology
EM 197904
ED Entered STN: 19941107
Last Updated on STN: 19941107
AB Early membrane events in erythroid **differentiation** were investigated by means of cell electrophoresis utilizing cultured Friend **erythroleukemia** cell clones of different inducibility. The cell electrophoretic mobility decreased by 18% within 30 min of treatment with 1.5% dimethyl sulfoxide (DMSO) in highly inducible clones but not in noninducible clones. The reduced mobility persisted for 5 days of incubation with DMSO until hemoglobin synthesis. DMSO treatment for less than 16 hr and subsequent incubation without the drug resulted in the complete recovery of the mobility and no hemoglobin synthesis. Longer exposure to DMSO resulted in the loss of recovery of mobility and an increasing fraction of benzidine-positive cells seen on Day 5. Measurement of the electrophoretic mobility after the removal of acidic sugars by their specific enzymes suggested that **hyaluronidase**-sensitive negative charges were lost from the cell surface only in highly inducible clones. The mobility reduction associated with **hyaluronic acid** was also caused by other potent inducers (sodium butyrate, N-methylacetamide, and N,N-dimethylacetamide). These results suggest that the decrease in cell surface glycocalyx might be an early step in the induction of **differentiation** of Friend **erythroleukemia** cells. (Author abstract) (28 Refs)

=> fil wpix
FILE 'WPIX' ENTERED AT 15:15:04 ON 21 JAN 2003
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FILE LAST UPDATED: 17 JAN 2003 <UPD>
MOST RECENT DERWENT UPDATE: 200304 <UPD>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> DUE TO TECHNICAL ISSUES THE SDIS FOR UPDATES 200302-200304

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=> s l144 all abeq tech abex tot

L144 ANSWER 1 OF 3 WPIX (C) 2003 THOMSON DERWENT
AN **2000-524479** [47] WPIX
DNC **C2000-155803**
TI Composition for inducing **differentiation** of **leukemic** or hematopoietic stem cells, useful for treating e.g. **leukemia** or aplasia, contains a polymer comprising specific disaccharide units.
DC A96 B04 D16
IN CHARRAD, R S; CHOMIENNE, C; DELPECH, B; JASMIN, C; SMADJA, J F; CHARRAD, R; SMADJA-JOFFE, F
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE
CYC 91
PI WO 2000047163 A2 20000817 (200047)* FR 56p A61K000-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
FR 2789587 A1 20000818 (200048) A61K031-728 <--
AU 2000026762 A 20000829 (200062) A61K000-00
EP 1150692 A2 20011107 (200168) FR A61K031-715
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2000047163 A2 WO 2000-FR349 20000211; FR 2789587 A1 FR 1999-1644 19990211; AU 2000026762 A AU 2000-26762 20000211; EP 1150692 A2 EP 2000-905120 20000211, WO 2000-FR349 20000211
FDT AU 2000026762 A Based on WO 200004716[illegible]; EP 1150692 A2 Based on WO 2000047163
PRAI FR 1999-1644 19990211
IC ICM A61K000-00; A61K031-715; **A61K031-728**
ICS A61K039-395; **A61P035-02**
AB WO 200047163 A UPAB: 20000925
NOVELTY - Preparing a composition for stimulating **differentiation** of **leukemic** cells or CD14-CD15 stem cells, using a polymer (I), containing disaccharide units (DSU), each DSU comprising an N-acetyl-D-glucosamine linked thorough a beta -1,4-C-glucosidic bond to a molecule with a glucuronic acid structure.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a

pharmaceutical composition for inducing or stimulating **differentiation** of **leukemic** and CD14-CD15 stem cells, particularly blasts of acute myeloblastic **leukemia** (AML), that contain the specified CD44.

ACTIVITY - **Antileukemic**. No biological data is given.

MECHANISM OF ACTION - CD44 receptor activation. No biological data is given.

USE - (I) is used to treat **leukemia** by inhibiting, in vivo, proliferation of **leukemic** cells and to regulate **differentiation** of very immature, but normal, hematopoietic cells, e.g. for treating aplasia or neutropenia.

Hematopoietic, especially **leukemic**, cells, and particularly AML (acute myeloblastic **leukemia**) blasts are stimulated or **differentiated** and stem cells are converted to mature cells of granulocytic and monocytic lineages. (I) binds directly to cells and acts as a transducing receptor for a pro-**differentiation** and/or anti-proliferative signal; particularly it activates the CD44 receptor.

ADVANTAGE - (I) is effective against all types of acute myeloblastic **leukemia** (AML) blasts, including types for which no **differentiation**-inducing treatment is available. (I) is not toxic at doses of several milligrams.

Dwg.0/5

FS CPI

FA AB; DCN

MC CPI: A03-A00A; A12-V01; B04-C02E; B04-C02F; B11-C08E; B12-K04; **B14-H01A**; D05-H08; D05-H09

TECH UPTX: 20000925

TECHNOLOGY FOCUS - BIOLOGY - Preferred Material: (I) contains at least 5, preferably 3 - 10 or 10 - 100, DSU and is particularly **hyaluronic acid** or its fragments.

Preferred cells: The target cells are of any of the AML types I-V.

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: (I) may be formulated with an adjuvant that promotes binding of (I) to its cellular target, preferably an anti-CD44 antibody or its fragment or (ii) a compound that prevents binding of (I) to an inappropriate cell target, particularly a monoclonal antibody directed against ICAM-1 (intracellular adhesion molecule-1).

ABEX

WIDER DISCLOSURE - Also disclosed are:

(1) a method for predicting the effect of treatment with (I) and for adjusting the dose, where pathological cells from the subject are incubated, in vitro, with (I) and a therapeutic effect is predicted if a significant increase in cell differentiation, relative to a negative control, is observed. A similar test may be performed in an animal model; and

(2) use of a mimetic or agonist of (I) rather than (I) itself.

ADMINISTRATION - Unit doses of (I) are 1 - 10, preferably 3 milligrams/kilogram. Administration is via intravenous injection (preferred), tablets and patches.

EXAMPLE - **Leukemic** blasts, of various acute myeloblastic **leukemia** (AML) types, were isolated from blood or bone marrow and 0.2 million of them incubated for 6 days at 37 degrees Centigrade with 20 micrograms/milliliter of human **hyaluronic acid**. Cells were then examined for differentiation from:

(i) the ability to reduce nitro-blue tetrazolium,

(ii) expression of CD14 and M11, and

(iii) cytosolic staining.

Of 35 samples tested, 26 showed induction of differentiation, specifically 5 of 7 for AML type 1/2; 12 of 16 for AML type 3; 3 of 4 for AML type 4 and 6 of 8 for AML type 5.

L148 ANSWER 2 OF 3 WPIX (C) 2003 THOMSON DERWENT
AN 1999-255087 [21] WPIX
DNC C1999-074704
TI Generating hematopoietic cells from multipotent neural stem cells.
DC B04 B16
IN BJORNSON, C R; REYNOLDS, B A; RIETZE, R L; VESCOVI, A L
PA (NEUR-N) NEUROSPHERES HOLDINGS LTD
CYC 34
PI WO 9916863 A1 19990408 (199921)* EN 41p C12N005-06
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD
GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA
UG US UZ VN YU ZW
AU 9892495 A 19990423 (199935) C12N005-06
EP 1019493 A1 20000719 (200036) EN C12N005-06
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
NO 2000001509 A 20000523 (200036) C12N005-06
US 6093531 A 20000725 (200035) C12N005-06
JP 2001518289 W 20011016 (200176) 66p C12N005-06
ALT WO 9916863 A1 WO 1998-CA916 19980928; AU 9892495 A AU 1998-92495 19980928; EP 1019493 A1 EP 1998-944943 19980928, WO 1998-CA916 19980928; NO 2000001509 A WO 1998-CA916 19980928, NO 2000-1509 20000323; US 6093531 A Provisional US 1997-60289P 19970929, US 1998-100679 19980619; JP 2001518289 W WO 1998-CA916 19980928, JP 2000-513934 19980928
FDT AU 9892495 A Based on WO 9916863; EP 1019493 A1 Based on WO 9916863; JP 2001518289 W Based on WO 9916863
PRAI US 1998-100679 19980619; US 1997-60289P 19970929
IC ICM C12N000-00; C12N005-06; C12N005-08
ICS A61K035-14; A61K035-30; A61K048-00; A61P007-00; A61P007-06
AB WO 9916863 A UPAB: 19990603
NOVELTY - Generating hematopoietic cells from mammalian multipotent neural stem cells (MNSCs) is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a composition comprising an enriched population of MNSCs in a physiological solution for generating new hematopoietic cells (NHCs) in a patient; and
(2) the dosage form required for generating NHCs in a patient comprising a device for delivering the composition to a patient's circulatory system.
USE - The method is useful as an alternative to bone marrow and hematopoietic stem cell transplantation for the treatment of blood-related disorders such as lymphomas, **leukemias**, sickle-cell disease, osteopetrosis and immune deficiency. It can also be used to treat genetic defects that affect hematopoietic cells.
ADVANTAGE - This method eliminates the need to either repeatedly harvest autologous stem cells or recruit compatible donors for therapies involving reconstitution of the hematopoietic system. It also avoids the risk of transplanting diseased or cancerous cells to the patient and reduces the risk of graft-verses-host disease as lymphoid cells are not transplanted. Further, MNSCs readily generate large numbers of MNSC progeny from a small amount of starting tissue using simple culture conditions where oncogenes or tumorigenic cells are not required. MNSCs can be continuously propagated in.
Dwg.0/2
FS CPI
FA AB; DCN
MC CPI: B04-F02; B14-F03; B14-G01; **B14-H01A**; D05-H08
TECH UPTX: 19990603
TECHNOLOGY FOCUS - BIOLOGY - Preferred Method: MNSC progeny can be derived

from human adult, juvenile, fetal or embryonic neural tissue such as cerebral cortex, frontal lobe, conus medullaris, hypothalamus, cerebellum, midbrain, brainstem, spinal cord, cerebro spinal fluid and tissues surrounding CNS ventricles. The MNSCs are administered either in vivo circulatory system, spleen, thymus or ex vivo to a mammal that has undergone either radiotherapy or chemotherapy to suppress or deplete endogenous hematopoietic cells. MNSCs can be derived from an allogeneic or xenogeneic donor and may be genetically modified to treat specific genetic defects. The MNSC progeny comprises an enriched population of at least 1 or 10 or preferably 1-5 to 1-6 MNSCs. The administration comprises approximately 1-2 to 1-7 precursor cells per kg of body weight and can be delivered via a syringe for intravenous injection or a bag for intravenous infusion.

ABEN

ADMINSTRATION - The precursor cells can be introduced into the recipient's circulatory system by intravenous, subcutaneous, or intraperitoneal injection or infusion.

EXAMPLE - Striatal tissue from the brains of adult mice (TGR ROSA, genetically labeled with beta gal; RAG-1, incapable of producing mature, functional B and T blood cells; and C57BL/6J, background stocks for RAG-1 knockouts). The tissues were dissected into 500mu sections and immediately transferred into low calcium oxygenated artificial cerebro spinal fluid (aCSF) containing 1.33 mg/mL trypsin, 0.67 mg/mL **hyaluronidase**, and 0.2 mg/mL kynurenic acid. Tissue was stirred for 90 minutes at 32degreesC to 35degreesC, aCSF was poured off and replaced with fresh oxygenated aCSF for 5 minutes. Tissue was transferred to DMEM/F-12/1% hormone solution containing 0.7 mg/mL ovomucoid and triturated with a fire polished Pasteur pipette. Cells were centrifuged at 400 rpm for 5 minutes, the supernatant aspirated and pelleted cells resuspended in DMEM/F-12/1% hormone mix. Adult cells were plated (1000 viable cells per plate) were plated in culture dishes containing Complete Medium, transferrin (100 to approximately, 10 ng/mL betaFGF and 20 ng/mL EGF and embryonic cells were grown in the same medium without betaFGF. The murine MNSCs proliferated and gave rise to neurospheres and after 6-7 days, the neurospheres were allowed to settle in the bottom corner of the flask. The neurospheres were transferred to 50 mL centrifuge tubes and centrifuged at 300 rpm for 5 minutes. The medium was aspirated off and resuspended in 1ml of proliferation medium in which they were grown. The neurospheres were dissociated, triturated to form a single cell suspension, counted and replated at 50,000 cells/mL in Complete Medium. New neurospheres were present after a few days and the proliferation / passaging process was performed four times. The neurospheres were diluted to approximately 1 cell per well in a 96 well tissue culture plate (200mul growth medium/well) to generate MNSC progeny. The presence of a single cell in a well was confirmed with phase contrast microscopy. Single neurospheres developed in about 20% of the wells and after several passages, were collected for transplantation at approximately four days after formation. Equal number of male and female 2.5 to 3 month old adult Balb/c mice were subject to 850 rads of total body irradiation. Several batches of enriched MNSC populations (with some batches exposed to various cytokines) were prepared as described above and were resuspended in Earle's balanced saline solution at room temperature. The cells were kept at 4degreesC and warmed to body temperature just prior to implantation. The recipient mice were injected with 0.2ml of an enriched population of MNSCs in EBSS and control mice received warm EBSS or murine fibroblasts. Some recipient mice received an injection of ROSA bone marrow cells to provide a positive control. The mice were treated with antibiotics and observed daily. The majority of MNSC progeny and bone marrow recipient animals survived for more than 4 months following the treatment whereas the majority of negative control animals did not survive for more than 21 days. Peripheral blood was collected from survivors of 7 to 11 months and were subjected to flow cytometric, FACS analysis and PCR amplification of the Lac Z gene. beta-galactosidase was detected in a number of hematopoietic cell types

suggesting that complete reconstitution of all major hematolymphatic lineages had occurred.

L144 ANSWER 3 OF 3 WPIX (C) 2003 THOMSON DERWENT
AN 1996-277710 [28] WPIX
DNC C1996-088156
TI New and known keratan sulphate oligosaccharide cpds. - are antiinflammatory, antiallergic, cell **differentiation** inducing immuno-regulatory and apoptosis inducing agents.
DC B04
IN AGARI, A; MARUYAMA, H; MIYAUCHI, J; MURAMATA, K; TAMADA, A; YOSHIDA, K
PA (JEOL) SEIKAGAKU CORP
CYC 25
PI WO 9616973 A1 19960606 (199628)* EN 72p C07H011-00
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA CN HU JP KR RU US
AU 9539356 A 19960619 (199640) C07H011-00
EP 795560 A1 19970917 (199742) EN 47p C07H011-00
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 08518573 X 19971222 (199810) C07H011-00
HU 77134 T 19980302 (199821) C07H011-00
KR 98700320 A 19980330 (199901) C07H011-00
AU 704429 B 19990422 (199927) C07H011-00
US 5939403 A 19990817 (199939) A61K031-70
US 6159954 A 20001212 (200107) A61K031-70
RU 2173154 C2 20010910 (200168) A61K031-7024
CN 1174557 A 19980225 (200171) C07H011-00
ADT WO 9616973 A1 WO 1995-JP2386 19951122; AU 9539356 A AU 1995-39356 19951122; EP 795560 A1 EP 1995-937170 19951122, WO 1995-JP2386 19951122; JP 08518573 X WO 1995-JP2386 19951122, JP 1996-518573 19951122; HU 77134 T WO 1995-JP2386 19951122, HU 1997-1820 19951122; KR 98700320 A WO 1995-JP2386 19951122, KR 1997-703698 19970602; AU 704429 B AU 1995-39356 19951122; US 5939403 A WO 1995-JP2386 19951122, US 1997-849925 19970602; US 6159954 A Div ex WO 1995-JP2386 19951122, Div ex US 1997-849925 19970602, US 1999-317380 19990524; RU 2173154 C2 WO 1995-JP2386 19951122, RU 1997-111163 19951122; CN 1174557 A CN 1995-197492 19951122
FDT AU 9539356 A Based on WO 9616973; EP 795560 A1 Based on WO 9616973; JP 08518573 X Based on WO 9616973; HU 77134 T Based on WO 9616973; KR 98700320 A Based on WO 9616973; AU 704429 B Previous Publ. AU 9539356, Based on WO 9616973; US 5939403 A Based on WO 9616973; RU 2173154 C2 Based on WO 9616973
PRAI JP 1994-298298 19941201
REP AU 9472058; EP 656215; JP 7278203; WO 9428889
IC ICM A61K031-70; A61K031-7024; A61K031-73; C07H011-00
ICS A61K031-725; A61K035-32; A61K035-60; A61P029-00; A61P037-02; A61P037-08; A61P043-00; C08B003-04; C08B003-06
AB WO 9616973 A UPAB: 20010110
Antiinflammatory or antiallergic agent, immunoregulator, cell **differentiation** inducer or apoptosis inducer comprise a keratan sulphate oligosaccharide (I) or its salt. Also claimed are (I)-fractions: (i) comprising at least 90% of an oligosaccharide which has a sulphated N-acetylglucosamine at the reducing end with at least 2 sulphated hydroxy gps. per molecule; and (ii) not contg. endotoxin, nucleic acids, proteins, protease, **hyaluronic acid**, chondroitin sulphate, dermatan sulphate, heparan sulphate or keratan sulphate. Prepn. of (I)-fractions as in (ii) above is also claimed (see 'Preparation').
USE - (I) are antiinflammatory and antiallergic agents, cell **differentiation** and apoptosis inducers and immunoregulators useful for the treatment and prophylaxis of e.g. rheumatoid arthritis, tendonitis human autoimmune lymphoproliferative syndrome, **leukaemia**, multiple sclerosis, good-pastures disease, insulin and juvenile diabetes, thyroid toxicoccus, Crohn's disease, Addison's disease Sjorgen's disease, cancer, **leukaemia**, metastasis, scleroderma, glomerulonephrosis

or chronic hepatitis. Dosage is 1-[illegible] mg/day as antiinflammatory or antiallergic agents or 30-[illegible] mg/day for other uses.
Dwg.1/19
FS CPI
FA AB; DCN
MC CPI: B04-C02X; B14-C03; B14-C09B; B14-H01; B14-N01; B14-N11; B14-S01; B14-S04

[illegible] DPCI
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FILE LAST UPDATED: 20 JAN 2003 <20030121/UP>
PATENTS CITATION INDEX, COVERS 1973 TO DATE

>>> LEARNING FILE LDPCI AVAILABLE <<<

=> d all

L152 ANSWER 1 OF 1 DPCI (C) 2003 THOMSON DERWENT
AN 2000-524479 [47] DPCI
DNC C2000-155803
TI Composition for inducing differentiation of leukemic or hematopoietic stem cells, useful for treating e.g. leukemia or aplasia, contains a polymer comprising specific disaccharide units.
DC A96 B04 D16
IN CHARRAD, R S; CHOMIENNE, C; DELPECH, B; JASMIN, C; SMADJA, J F; CHARRAD, R; SMADJA-JOFFE, F
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE
CYC 91
PI WO 2000047163 A2 20000817 (200047)* FR 56p A61K000-00 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
FR 2789587 A1 20000818 (200048) A61K031-726
AU 2000026762 A 20000829 (200062) A61K000-00
EP 1150692 A2 20011107 (200168) FR A61K031-715
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2000047163 A2 WO 2000-FR349 20000211; FR 2789587 A1 FR 1999-1644 19990211; AU 2000026762 A AU 2000-26762 20000211; EP 1150692 A2 EP 2000-905120 20000211, WO 2000-FR349 20000211
FDT AU 2000026762 A Based on WO 2000047163; EP 1150692 A2 Based on WO 2000047163
PRAI FR 1999-1644 19990211
IC ICM A61K000-00; A61K031-715; A61K031-726
ICS A61K039-395; A61P035-02
FS CPI

[illegible] CITATION COUNTERS

RNC.BI 0 Cited Patents Count (by inventor)
RNC.BX 3 Cited Patents Count (by examiner)
IAC.BI 0 Cited Issuing Authority Count (by inventor)
IAC.BX 2 Cited Issuing Authority Count (by examiner)

RNC.CI 0 Citing Patents Count (by inventor)
RNC.CX 0 Citing Patents Count (by examiner)
IAC.CI 0 Citing Issuing Authority Count (by inventor)

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IAC.EX        [illegible]          Citing Issuing Authority Count  by examiner

CRC.I         [illegible]          Cited Literature References Count  by inventor
CRC.E         [illegible]          Cited Literature References Count  by examiner

CDP  CITED PATENTS           UPD: [illegible]
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     Cited by Examiner
     -----------------

     CITING PATENT    CAT    CITED PATENT     ACCNO
     -------------------------------------------------------
     WO 200047163  A  X       DE 19802540    C  199[illegible]-[illegible]/[illegible]
                    PA:  (UYFR-N) UNIV FREIBURG KLINIKUM ALBERT-LUDWIGS
                    IN:  SIMON, J; TERMEER, C
                      X       EP 240098      A  1987-279443/40
                    PA:  (UENS) UENO SEIYAKU OYO KENKYUSHO KK
                    IN:  KUNO, S; TABATA, A; UENO, R
                      A       EP 795560      A  1996-277710/28
                    PA:  (SEGK) SEIKAGAKU CORP
                    IN:  ASARI, A; MARUYAMA, H; MIYAUCHI, S; MORIKAWA, K;
                         TAWADA, A; YOSHIDA, K

REN  LITERATURE CITATIONS  UPB: [illegible]
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     Citations by Examiner
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     CITING PATENT    CAT    CITED LITERATURE
     -----------------------------------------------------------------------
     WO 200047163  A         SMADJA-JOFFE F ET AL: "CD44 and hyaluronan binding
                             by human myeloid cells." LEUKAEMIA AND LYMPHOMA,
                             vol. 21, no. (5-6), 1996, pages 407-20,
                             XP000856598 SWITZERLAND
     WO 200047163  A         LI Y ET AL: "CD44: A signaling molecule for
                             differentiation of HL60 myeloid leukemic cell line
                             (Meeting abstract)." PROCEEDINGS OF THE AMERICAN
                             ASSOCIATION FOR CANCER RESEARCH, vol. 36, mars
                             1995 (1995-03), page 215 XP000857230
     WO 200047163  A         LI, Y ET AL: "The adhesion molecule CD44 mediates
                             granulocytic differentiation of HL60 myeloid
                             leukaemia cells and enhances the differentiation
                             of CD34+ haematopoietic progenitors" BRITISH
                             JOURNAL OF HAEMATOLOGY, vol. 93, no. 2, 1996, page
                             346 XP000949247
     WO 200047163  A         MORIMOTO K C ET AL: "CD44 mediates hyaluronan
                             binding by human myeloid KG1A and KG1 cells."
                             PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR CANCER
                             RESEARCH ANNUAL MEETING, 1994, vol. 35, mars 1994
                             (1994-03), page 2[illegible] XP[illegible]
     WO 200047163  A         DELPECH B ET AL: "Expression of the
                             hyaluronan-binding glycoprotein hyaluronectin in
                             leukemias." LEUKEMIA, FEB 1993, 7 (2) P172-6, vol.
                             7, no. 2, fevrier 1993 (1993-02), pages 172-176,
                             XP000856619 ENGLAND
     WO 200047163  A         MCKEE CHARLOTTE M ET AL: "Hyaluronan (HA
                             fragments induce chemokine gene expression in
                             alveolar macrophages: The role of HA size and
                             CD44." JOURNAL OF CLINICAL INVESTIGATION, 1996,
                             vol. 98, no. 10, 1996, pages 24[illegible]-241[illegible],
                             XP000856600
```

WO 200147163 A SHAFFARI S ET AL: "Altered patterns of CD44 epitope expression in human chronic and acute myeloid leukemia." LEUKAEMIA, vol. 11, no. 11, 1997, pages 1771-1781, XP002180618 ENGLAND

WO 200147163 A LESSAC, G. ET AL: "CD44-mediated adhesiveness of human hematopoietic progenitors to hyaluronan is modulated by cytokines" BLOOD, vol. 89, 1997, pages 1905-1914, XP002940183

WO 200047163 A CHARRAD RS ET AL: "Ligation of the CD44 adhesion molecule reverses blockage of differentiation in human acute myeloid leukemia" NATURE MEDICINE, vol. 5, no. 6, June 1999 (1999-06), pages 669-676, XP000887226 UNITED STATES

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=> fil wpix
FILE 'WPIX' ENTERED AT 15:17:54 ON 21 JAN 2003
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FILE LAST UPDATED:          17 JAN 2003      <20030117/UP>
MOST RECENT DERWENT UPDATE:     200304        <200304/DW>
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    /BIX is also provided which comprises both /BI and /ABEX <<<

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    GUIDES, PLEASE VISIT:
    http://www.derwent.com/userguides/dwpi_guide.html <<<

=> d all abeq tech abex tot

L156 ANSWER 1 OF 2  WPIX (C) 2003 THOMSON DERWENT
AN   1998-596253 [51]   WPIX
DNC  C1998-179068
TI   Process for concentration of dendritic cells - comprises obtaining
     mononuclear cells from blood, isolating CD14 cells, cultivating CD14
     cells, and the resulting cells with hyaluronic acid fragments.
DC   B04 D16
IN   SIMON, J; TERMEER, C
PA   (UYFR-N) UNIV FREIBURG KLINIKUM ALBERT-LUDWIGS
CYC  1
PI   DE 19802540   C1 19981119 (199851)*       8p    C12N005-18      <--
ADT  DE 19802540 C1 DE 1998-19802540 19980123
```

PRAI DE 1986-19602840 19860123
IC ICM C12N005-08
AB DE 19602840 C UPAB: 19961203
A process for the concentration of dendritic cells comprises: a isolating mononuclear cells from blood; b concentrating cells with a CD14 cell surface marker; c cultivating the CD14 cells in a medium comprising the cytokines GM-CSF and interleukin-4 (IL-4), and d cultivating the resulting cells with hyaluronic acid fragments to obtain irreversibly differentiated dendritic cells. Also claimed is the use of low molecular hyaluronic acid fragments for the concentration of dendritic cells.
ADVANTAGE - The process is faster and cheaper than prior art methods of cultivating dendritic cells.
Dwg.0/0
FS CPI
FA AB
MC CPI: B04-C02E; B04-F04; D05-H15

L156 ANSWER 2 OF 2 WPIX (C) 2003 THOMSON DERWENT
AN 1987-279443 [40] WPIX
DNC C1987-118652
TI Treatment of diseases caused by retro-viruses - using an oligo-or polysaccharide having S-oxo acid gps. attached to the saccharic carbon via a linking gp..
DC A96 B04
IN KUNO, S; TABATA, A; UENO, K
PA (UENS) UENO SEIYAKU OYO KENKYUSHO KK
CYC 21
PI EP 240098 A 19871007 (198740)* EN 33p
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
AU 8771074 A 19871008 (198747)
JP 63045223 A 19880226 (198814)
ZA 8702359 A 19880224 (198821)
JP 01151521 A 19890614 (198930)
US 4840941 A 19890620 (198931) 22p
JP 02007577 B 19900219 (199011)
CA 1277239 C 19901204 (199103)
PH 25964 A 19920113 (199511) A61K003-70
ADT EP 240098 A EP 1987-300282 19870114; JP 63045223 A JP 1987-15574 19870126; ZA 8702359 A ZA 1987-2359 19870401; JP 01151521 A JP 1988-233363 19880325; US 4840941 A US 1988-144131 19880115; PH 25964 A PH 1987-35103 19870403
PRAI JP 1986-78470 19860404; JP 1986-78471 19860404; JP 1986-93019 19860421; JP 1987-15574 19870126; JP 1988-233363 19880325
REP 8.Jnl.Ref; A3...8919; EP 232744; No-SR.Pub
IC A61K031-70; C04B037-02; C07H011-00
ICM A61K003-70
ICS A61K031-70; C04B037-02; C07H011-00
AB EP 240098 A UPAB: 19930922
A natural or synthetic oligo- or polysaccharide (I) having at least one S-oxoacid gp attached to the saccharic C atom through a linking gp of lower mol wt or a salt of (I) is used for the mfr of a medicament for treatment of disease caused by retroviruses.
Pref the S-oxoacid gp is SO3H and the linking gp. is -O- or -NH-. Pref. (I) is a natural polysaccharide having at least one OSO3-H gp (I) from a plant or microorganism or a synthetic polysaccharide having at least one OSO3H gp formed by esterifying a polysaccharide. Suitable (I) include, e.g. chondroitin sulphate, dermatan sulphate, heparitin sulphate, hyaluronic acid, chitin, chitosan, chondroitin polysulphate, keratin polysulphate, hyaluronic acid sulphate, chitin sulphate and chitosan sulphate. USE - (I) can be used for the prevention or therapy of e.g. PRL, ARC, AIDS, ATL, Kawasaki disease, avian myeloblastosis virus or Friend murine leukemia virus. (I) inhibits the reverse transcriptase of the retrovirus in vitro and thereby suppresses the replication of the virus.

```
     Previously (I) have had other uses, e.g. dextran sulphate of low mol wt
     has been used as an antilipemic or anti-arteriosclerosis agent and dextran
     sulphate of higher mol wt. is known to have an inhibitory action against
     herpes virus, chondroitin sulphate has been used for sensorineural hearing
     impairment, neuralgia, lumbago and chronic nephritis and also as a
     cornea-protective ophthalmic soln.  The toxicity of  I  is extremely low
     e.g. LD50 of sodium chondroitin sulphate is 4000 mg/kg or more i.p in
     mice.
     0/48
FS   CPI
FA   AB
MC   CPI: A03-A00A; A12-V01; B04-C02D; B04-C12E; B14-C12F; B11-A01; B12-A10;
          B12-D01; B12-G03; B12-G05; B12-H03; B12-L04
ABEQ US    4640941 A UPAB: 19930922
     Process for inhibiting the infection of human T-cells by a human
     retrovirus comprises administration of dextran sulphate  S content 13-1[illegible]
     wt. ; Mr [illegible] pref. [illegible] .
          USE - Dextran sulphate provides a means of prophylaxis and treatment
     of retrovirus infection arising from Immunodeficiency virus (AIDS), T-cell
     lymphotropic virus-I, -II or -III, lymphoadenopathy associated virus,
     AIDS-related virus and Kawasaki disease retrovirus, etc.


=> d his

     (FILE 'HOME' ENTERED AT 13:36:24 ON 21 JAN 2003)
                SET COST OFF

     FILE 'REGISTRY' ENTERED AT 13:36:33 ON 21 JAN 2003
L1              2 S 9004-61-9 OR 9067-32-7
                  E HYALURONIC ACID/CN
L2              1 S 36733-80-9
L3              1 S 14131-68-1
L4              1 S 27555-50-6
L5              1 S 7512-17-6
                  E C6H10O7/MF
L6             32 S E3 AND OC5/ES
                  E GLUCURONIC ACID/CN
L7              2 S E3
                  E L-GLUCURONIC ACID/CN
L8              1 S E3
L9             27 S L6 NOT (LABELED OR ION OR (D OR T)/ELS OR 11C# OR 13C# OR 14C
L10             6 S L9 AND GLUCO?
L11           302 S C8H15NO6/MF
L12             5 S L11 AND ACETAMIDO 2 DEOXY AND GLUCO?
L13             4 S L12 NOT 14C
L14             4 S L3,L5,L13
L15             9 S L7,L8,L10
                  SEL RN L14
L16           192 S E1-E4/CRN
                  SEL RN L15
L17           387 S E5-E13/CRN
L18             2 S L16 AND L17
                  E C14H23NO12/MF
L19            33 S E3 AND OC5/ES
L20            25 S L19 NOT GALAC?
L21            15 S L20 AND 4
L22             2 S L21 AND GLUCURON?
L23            13 S L21 NOT L22
                  SEL RN 2 5 6 11 12
L24             5 S E1-E5
L25            18 S L19 NOT L21-L24
L26             2 S L25 AND IDS/CI
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L27            31 S L16 AND PMS/CI
L28            26 S L17 AND PMS/CI
L29             1 S L27 AND L28
L30             2 S L27 AND "(C8H13NO6)X" MF
L31             4 S L28 AND " C8H13O7 X" MF

     FILE 'HCAPLUS' ENTERED AT 13:57:41 ON 21 JAN 2003
                E SMADJA JOFFE F/AU
L32            22 S E3,E4
                E SMADJA J AU
L33            13 S E2
                E SMADJA F/AU
L34             1 S E4
                E JOFFE F/AU
                E CHARRAD R/AU
L35             5 S E4,E5
                E RACHIDA/AU
L36             2 S E19
                E SIHEM/AU
                E CHOMIENNE C/AU
L37            67 S E3-E5
                E DELPECH B/AU
L38           105 S E3,E7
                E JASMIN C/AU
L39           136 S E3,E4
L40           331 S L32-L39
                E WO2000-FR349/AP,PRN
L41             1 S E3,E4
L42             1 S L40 AND L41
                SEL RN

     FILE 'REGISTRY' ENTERED AT 14:00:42 ON 21 JAN 2003
L43            10 S E1-E10
L44             2 S L43 NOT SQL/FA

     FILE 'HCAPLUS' ENTERED AT 14:03:54 ON 21 JAN 2003

     FILE 'REGISTRY' ENTERED AT 14:05:34 ON 21 JAN 2003
                E (C14H23NO12)/MF
L45             3 S E11
L46             2 S L45 NOT 6 O
                E (C14H21NO11)/MF
L47             1 S 78245-16-6
L48             1 S 97747-46-1
L49            33 S C14H23NO12/MF AND OC5/ES
L50            16 S L49 AND 4
                SEL RN 1 3 11 12 16
L51             5 S E1-E5
                SEL RN
L52             1 S E6-E10/CRN
L53             2 S L47,L48
                SEL RN
L54             2 S E11-E12/CRN
L55             4 S L53,L54

     FILE 'HCAPLUS' ENTERED AT 14:14:19 ON 21 JAN 2003
L56         16031 S L1
L57         14614 S HYALURONIC ACID OR HYALURONATE OR HYALURONAN
L58            17 S L55
L59            58 S L40 AND L56-L58
L60             5 S L59 AND (?LEUCEM? OR ?LEUCAEM? OR ?LEUCEAM? OR ?LEUKEM? OR ?L
L61             5 S L59 AND (?HEMATOP? OR ?HEAMATOP? OR ?HAEMATOP?)
L62             8 S L60,L61
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L63            3 S L62 AND ?DIFFERENTIAT?
L64            5 S L62 NOT L63
L65            9 S L60-L64 AND ?HYALURON?
                 SEL RN

     FILE 'REGISTRY' ENTERED AT 14:20:24 ON 21 JAN 2003
L66           13 S E13-E25

     FILE 'HCAPLUS' ENTERED AT 14:20:52 ON 21 JAN 2003
L67           50 S L59 NOT L65
                 SEL DN AN 9 L67
L68            1 S E26-E28
L69            9 S L65,L68
L70            9 S L69 AND ?HYALUR?
                 E CELL DIFFERENTIATION/CT
L71           91 S E3-E9 AND L56,L57
L72            1 S E3-E9 AND L58
                 E E3+ALL
                 E LEUKEM/CT
L73           38 S E4-E52 AND L56,L57
L74            1 S E4-E52 AND L58
                 E E4+ALL
L75           38 S E9+NT AND L56,L57
L76            1 S E9+NT AND L58
L77          127 S L71,L73,L75
L78            9 S L70,L72,L74,L76
L79            9 S L78 AND L56,L57
L80            3 S L79 AND CELL?(L)DIFFERENTIAT?
L81            6 S L79 NOT L80
L82            4 S L81 AND (1 OR 15 OR 63)/SC,SX
L83            7 S L80,L82
L84            2 S L79 NOT L83
L85            9 S L83,L84 AND L32-L42,L56-L65,L67-L84
L86           95 S L77 AND CELL?(L)DIFFERENTIAT?
L87            2 S L71 AND L73,L75
L88            4 S L77 AND ?DIFFERENTIAT? AND L73,L75 NOT L87
L89            9 S L85,L87
L90            6 S L73,L75 AND ?DIFFERENTIAT?
L91            0 S L90 NOT L89,L88

     FILE 'REGISTRY' ENTERED AT 14:40:01 ON 21 JAN 2003

     FILE 'HCAPLUS' ENTERED AT 14:40:24 ON 21 JAN 2003

     FILE 'MEDLINE' ENTERED AT 14:40:56 ON 21 JAN 2003
L92         7449 S L1
L93        10685 S L57
L94            0 S L55
L95        15916 S ?HYALURON?
L96        15916 S L92,L93,L95
                 E LEUKEM/CT
                 E E4+ALL
L97           60 S L96 AND E4+NT
L98            0 S L96 AND E64+NT
L99           87 S L96 AND (?LEUKEM? OR ?LEUCEM? OR ?LEUKAEM? OR ?LEUCAEM? OR ?L
L100           7 S L96 AND AML?
L101          58 S L97,L99,L100
                 E CELL DIFFERENTIATION/CT
L102           4 S E3-E10 AND L101
                 E E3+ALL
L103           8 S E7+NT AND L101
L104           8 S L102,L103
L105           7 S L104 AND ?DIFFERENTIAT?
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L106          11 S L101 AND ?DIFFERENTIAT?
L107          12 S L104,L105,L106
L108           4 S L107 AND (SMADJA ? OR JOFFE ? OR DELPECH ? OR JASMIN ? OR CHA
L109           8 S L107 NOT L108
L110           0 S L108,L109 AND ?SACCHARID?
L111           4 S L108,L109 AND ?HEMATOPO?
L112          12 S L108,L109,L111
                 E POLYSACCHARIDE/CT
L113          41 S E2+NT AND L101
L114           3 S L113 AND ?DIFFERENTIAT?
L115           6 S L113 AND CELL DIFFERENTIATION+NT/CT
L116           9 S L114,L115
L117           9 S L112 AND L116
L118           3 S L112,L114,L115 NOT L117

     FILE 'MEDLINE' ENTERED AT 14:50:46 ON 21 JAN 2003

     FILE 'CANCERLIT' ENTERED AT 14:51:01 ON 21 JAN 2003
L119        2578 S L96
L120           0 S L55
L121         486 S L119 NOT MEDLINE/OS
L122           1 S L121 AND AML?
L123          17 S L121 AND (?LEUKEM? OR ?LEUCEM? OR ?LEUKEAM? OR ?LEUKAEM? OR ?
                 E LEUKEM/CT
L124           0 S E4+NT AND L121
L125          18 S L122,L123
L126           3 S L125 AND ?DIFFERENTIAT?
L127           2 S L126 NOT ANTIVIRAL/TI
L128          15 S L125 NOT L126

     FILE 'CANCERLIT' ENTERED AT 14:58:27 ON 21 JAN 2003

     FILE 'WPIX' ENTERED AT 14:58:42 ON 21 JAN 2003
L129        2832 S L57/BIX OR L95/BIX
                 E HYALURONIC ACID/DCN
                 E E3+ALL
L130        1126 S E2
L131         639 S E4
L132        3063 S L129-L131
L133          22 S L132 AND (?LEUKEM? OR ?LEUCEM? OR ?LEUKEAM? OR ?LEUKAEM? OR ?
L134           5 S L133 AND ?DIFFERENTIAT?
                 SEL DN AN 2 5
L135           2 S L134 AND E1-E4
L136        3077 S A61K031-728/IC,ICM,ICS OR L132
L137          23 S L136 AND (?LEUKEM? OR ?LEUCEM? OR ?LEUKEAM? OR ?LEUKAEM? OR ?
L138           3 S L136 AND A61P035-02/IC,ICM,ICS
L139           6 S L137,L138 AND ?DIFFERENTIAT?
L140           1 S L139 NOT L134
L141           2 S L135 AND L137-L140
L142           7 S (B14-H01A OR C14-H01A OR B12-G05 OR C12-G05)/MC AND L136
L143           1 S L142 AND ?DIFFERENTIAT?
L144           2 S L141,L143
L145          21 S L133,L137,L142 NOT L144
L146           2 S L138 NOT L144
L147          22 S L145,L146
                 SEL DN AN 13
L148           1 S E5-E6
L149           3 S L144,L148 AND L129-L148
L150          11 S P632/M0,M1,M2,M3,M4,M5,M6 AND L149
L151           4 S L150 NOT L133-L135,L137-L149

     FILE 'WPIX' ENTERED AT 15:15:04 ON 21 JAN 2003
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      FILE 'DPCI' ENTERED AT 10:10:19 ON 21 JAN 2003
                E WO2001047963/PN
L161            1 S E3

      FILE 'DPCI' ENTERED AT 10:10:41 ON 21 JAN 2003

      FILE 'WPIX' ENTERED AT 10:10:46 ON 21 JAN 2003
                E DE19802644C/PN
L163            1 S E3
                E EP240098/PN
L164            1 S E3
                E EP795560/PN
L165            1 S E3
L166            2 S L153-L155 NOT L149

      FILE 'WPIX' ENTERED AT 10:17:54 ON 21 JAN 2003

      FILE 'MEDLINE' ENTERED AT 10:18:10 ON 21 JAN 2003
                E PROCEEDINGS/JT
                E BRITISH JOURNAL/JT
L167            0 S E23 AND LI ?/AU AND CD44/TI
L168           44 S E23 AND LI ?/AU
L169            3 S L158 AND 98/SO

      FILE 'HCAPLUS' ENTERED AT 10:19:48 ON 21 JAN 2003
                E LEUKAEMIA/JT
L160         4079 S E4-E7
L161           17 S L40 AND L160
                E PROCEEDINGS/JT
L162            4 S LI Y?/AU AND CD44/TI
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